

Aalto University  
School of Engineering

Heiman Khalil

# **Engineering Viral Growth**

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Supervisor:	Ilkka Kauranen, Professor of Development and Management in Industry
Instructor:	Jesse Nieminen, Master of Science (Tech.)

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**Author:** Heiman Khalil

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**Thesis supervisor:** Ilkka Kauranen, Professor of Development and Management in Industry

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**Thesis advisor:** Jesse Nieminen, Master of Science (Tech.)

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This research study was conducted for a Finnish high-technology start-up company Viima Solutions Oy. The objective was to give recommendations for Viima Solutions Oy to drive their growth using viral growth tactics. To reach this objective, the author performed a systematic literature review on the existing literature, empirical research consisting of ten semi-structured interviews, profiled the case company, carried out rigorous analysis on the findings and analysed the case company in the context of virality.

A framework for engineering viral growth was formulated. The framework includes macro-level analysis of the company and micro-level steps for generating viral growth tactics. The analysis is done by utilising the Pillars of Virality, which is a framework formulated by the author as a result of this research study. There are seven pillars of virality. Each pillar increases the probability of achieving viral growth. Identifying the pillars that are prevalent in one's company reveals the strengths that pertain in that company. One should develop their product and business model so that every pillar is exploited. Furthermore, the pillars can be affected by factors that weaken them. Applicable viral growth tactics are primarily generated to strengthen the weaknesses of the pillars. The tactics are generated by utilising existing frameworks, which were connected together as a result of this research study.

The author suggests the Pillars of Virality and the framework for engineering viral growth to be generalizable, which contributes to the existing literature by filling the information gap that prevailed on engineering viral growth.

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**Keywords:** virality, viral growth, viral growth tactics, engineering viral growth

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Tämä diplomityö on tehty toimeksiantona Viima Solutions Oy:lle. Tutkimuksen tavoitteena oli suositella kyseiselle yritykselle taktiikoita viraalikasvun aikaansaamiseksi, jotka vauhdittaisivat yrityksen kasvua entisestään. Tavoitteen saavuttamiseksi työn tekijä suoritti systemaattisen kirjallisuuskatsauksen, sekä empiirisen tutkimuksen. Empiirinen tutkimus koostui kymmenestä haastattelusta, tulosten analysoinnista sekä yrityksen profiloinnista ja viraaliuden elementtien analysoinnista.

Suosittelusten tekemistä varten tekijä laati viitekehysten viraalikasvun suunnittelemiseksi. Viitekehys pitää sisällään yrityksen analysoinnin makro-tasolla, jonka pohjalta voidaan laatia taktiikoita viraalikasvun aikaansaamiseksi. Yrityksen analyysi tehtiin tällä tekijän laatimalla viitekehyksellä. Tämä viitekehys, nimeltään Viraalisuuden pilarit, koostuu seitsemästä pilarista, joista jokainen toimii viraalikasvun saavuttamisen todennäköisyyttä kasvattavana tekijänä. Pilarit kuvastavat yrityksen vahvuuksia. Liiketoiminta ja tuotteet pitäisi kehittää niin, että jokainen pilari hyödynnetään. Vahvuuksien lisäksi kyseinen viitekehys ottaa huomioon myös pilareita heikentäviä tekijöitä. Viraalikasvun taktiikoita laaditaan ensisijaisesti heikentyneiden pilareiden vahvistamiseksi. Taktiikoiden laatimisessa hyödynnettiin myös olemassa olevia viitekehyksiä, joita yhdistettiin tutkimuksen tuloksiin.

Viraalisuuden pilarit ja viitekehys viraalikasvun suunnittelemiseksi ovat yleistettävissä ja siten täydentävät viraalikasvun suunnittelemisen kirjallisuudessa olevia puutteita.

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**Avainsanat:** viraalikasvu, viraalikasvu taktikat, viraalikasvun suunnittelu

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## **Preface**

My interest in this present research study is due to two reasons: virality as a growth strategy has surfaced in the recent years and I believe that companies can benefit from insights gained on virality. Virality can be an extremely effective growth strategy for boosting customer acquisition: it can be a primary source of growth or it can work as an amplifying factor for other acquisition channels, such as, paid channels. Either way, the return on investment can be improved by implementing viral growth tactics as it can decrease the customer acquisition cost.

The present research study is carried out for the case company Viima Solutions Oy with the objective of recommending them viral growth tactics that can drive their growth. However, I believe that the findings of this research study are generalizable: other companies could benefit from it as well.

The research objective is complex in nature, which requires understanding virality as a phenomenon from a holistic perspective. Information on the topic is dispersed. Additionally, it was not possible to test the hypothesis that were formulated in the study due to limited resources. In the study, I reviewed the relevant literature systematically and interviewed multiple companies that have knowledge or experience on viral growth tactics. This enabled me to form a coherent view on the topic and ultimately enabled me to provide practical recommendations for the case company which was the objective of the study.



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## Abbreviations and symbols

API	Application programming interface
B2B	Business-to-business
B2SB	Business-to-small-business
B2C	Business-to-consumer
ICE	Impact, confidence, and execution
IT	Information technology
OKR	Objective and key results
PDF	Portable document format
PR	Public relations
R&D	Research and development
SaaS	Software-as-a-service
SLR	Systematic literature review
STEPPS	Social currency, Triggers, Emotions, Public, Practical value and Stories: Berger's framework for making content more contagious
TOC	Theory of constraints
URL	Uniform resource locator
USA	United States of America
WOM	Word of mouth
\$	United States Dollars

## Key terminology

Population	A community that is either in a particular physical place or digital social network.
Viral marketing	Viral marketing can have varying definitions. In this research study any tactic that encourages individuals to pass on a marketing message to others, whether it be deliberate or unintentional, thus creating the potential for exponential growth in the exposure and influence of the message is considered as viral marketing. However, any varying meaning or definition of viral marketing will be mentioned explicitly in this present research study.
Virality and viral phenomenon	The term virality and viral phenomenon are used interchangeably in this research study. Briefly, it means a rapid large-scale increase in adoption driven largely by some form of peer-to-peer sharing.
Viral growth	Viral growth is the exponential growth pattern of an idea, product, or behaviour, which is mostly driven by peer-to-peer diffusion (i.e. viral phenomenon) that can happen offline or online. Viral growth of a product or service is comparable to the spread of contagious virus in a population.

# **1 Introduction**

## **1.1 Introduction to viral growth**

Viral growth is the exponential growth pattern of an idea, product, or behaviour, which is mostly driven by peer-to-peer diffusion (i.e. viral phenomenon) that can happen offline or online. Viral growth of a product or service is comparable to the spread of contagious virus in a population. Original viral tactics were implemented in traditional brick and mortar businesses such as in the case of Tupperware and Amway (Penenberg, 2009). However, with the ongoing digital transformation new possibilities have emerged. Digital businesses have far greater viral potential since they respond to online users who are highly interconnected and networked. Additionally, they benefit from attributes such as rapid flow of information, low-cost and automated viral marketing possibilities (Aneesh, 2015). Viral growth, when achieved, can create enormous value for companies. A well-known example, Friendster and Facebook, reveals the staggering return that comes with achieving sustainable viral growth. Having quite similar starting points, one achieved sustained viral growth while the other did not, which resulted in a valuation of \$26.4 million for Friendster (Fisher, Abbott, & Lyytinen, 2014) and \$10 billion for Facebook by the year 2009 (Siegler, 2009). Another classic example is Hotmail which achieved a subscriber base of 12 million users in 18 months with a marketing budget of \$50,000 whereas its non-viral competitor Juno spent \$20 million in traditional marketing in the same time period, with less effect (Jurvetson, 2000). Although true viral growth is very rare, organic growth resulting from people influencing other people can augment more traditional methods by giving a boost of 20-30 per cent in return (Fisher et al., 2014). Due to the potential of driving explosive increase in the number of users with little-to-no cost, viral marketing has become one of the most sought after engines of growth (Coffman, 2013a).

This research study is conducted as a single case study, however, achieving the thesis objective requires researching other companies that have knowledge and experience in formulating and implementing viral growth tactics. The case company in question is a Finnish start-up, Viima Solutions Oy, that offers Software-as-a-Service (SaaS) applications in the field of innovation, idea management and employee engagement. For the case company, viral marketing is a means for driving sustainable international growth with

minimum resources. The challenge comes with identifying and prioritising potential viral growth tactics. Factors such as potential of organic viral reach, boost in relevant online traffic and resource intensiveness need to be considered when choosing between viral growth tactics.

## **1.2 Research background**

The idea of viral growth dates back to 1976, with Richard Dawkins' publication that analysed cultural evolution, where instead of genes controlling the evolution ideas called memes would control the process. Memes are anything that can be passed from person to person where the rate of acceptance and spread depend on factors such as entertainment value, news worthiness, educational value, or sheer popularity. They can spread much faster than genes can replicate and achieve viral growth without a conscious plan and effort to spread it (Fisher et al., 2014).

To understand why viral growth is a sought after engine for growth, one must first understand why companies seek for growth in the first place. Results from a research indicate that the top reasons for pursuing growth were to improve financial and operational performance, gain market share and respond to customers' increasing expectations (CFERF, 2012). Tangible business and growth is ultimately derived from traffic i.e. visitors, which is converted into customers. Therefore, all businesses rely on traffic, whether it is an online social network, auction site, e-commerce platform, Software-as-a-Service application, or a traditional brick and mortar business. In case of digital businesses, the traffic is clicks and eyeballs, whereas in traditional businesses it is feet and bodies (Fisher et al., 2014).

Viral marketing can drive substantial amount of traffic at low-to-no cost in comparison to traditional marketing methods. Unilever's 75-second viral video film, which was initially launched online, generated three times more traffic to its website than their 30-second commercial that aired during the Super Bowl in 2006 (van der Lans, Van Bruggen, Eliashberg, & Wierenga, 2010). Viral marketing can improve a company's financial and operational performance while increasing their market share. Dropbox's initial marketing plan included traditional methods such as hiring a public relations (PR) firm, buying ads on

Google and attempting to leverage social media (Peters, 2014). The traditional path resulted in a customer acquisition cost of \$233-388, which was devastating considering the product generates \$99 per annum. Dropbox's new tactic encouraged word-of-mouth (WOM) and virality. They incentivized users to get their peers to sign up by rewarding extra storage space for each referral. This took Dropbox from 100,000 registered users to 4,000,000 registered users while bringing the customer acquisition cost close to zero (Houston, 2010).

The fact that viral growth tactics can decrease marketing expenses and yet generate tremendous returns brings us to why viral growth is something both young and old companies desire to achieve with their products and marketing efforts. Marketers can leverage the power of interpersonal networks by using peer-to-peer communications to spread information at low-to-no cost about a product or service. This in turn can capture the recipients' attention and trigger interest, which can eventually lead to more rapid and cost effective adoption by the market (De Bruyn & Lilien, 2008). Viral growth of a product or service is comparable to the spread of contagious virus in a population (Fisher et al., 2014).

Although viral marketing has become popular in the past decade, at the same time spam and e-mail-based viruses have cluttered electronic communications, making viral marketing campaigns problematic and challenging to deploy (De Bruyn & Lilien, 2008). An obvious problem with viral marketing is that it appears to be an open invitation to spammers (Klopper, 2002). Creating a perception of the product as spam leads to negative opinions in the minds of potential adopters, which can in turn deteriorate a company's credibility (Aneesh, 2015). This was the case with Path, a mobile messaging application, which accessed users address books and sent out invitations in their name without their consent. The users could not undo the spam that went out in their name (Patel & Taylor, 2013). Additionally, the practical implementation of viral tactics is greatly complicated due to its low success rate and inconsistency (Watts, Peretti, & Frumin, 2007). Therefore, the challenge is to make the marketing message interesting enough for people to want to spread it and the benefit of receiving the message must be significantly greater than the nuisance or cost of passing it on (Klopper, 2002). One may need to design and conduct dozens or even hundreds of viral tactics before one of them succeeds (Watts et al., 2007).

Conducting research on different types of viral growth tactics that exist and how a company can design for viral growth was considered to be important for the case company. Identifying potential viral growth tactics and understanding underlying reasons behind successful and



unsuccessful viral implementations might enable the case company to achieve their internationalisation growth targets at a cost efficient manner, while not risking to lose credibility.

### **1.3 Research objective**

The objective of this research study is to give recommendations for Viima Solutions Oy to drive their growth using viral growth tactics.

To reach this objective the following sub-objectives must be covered:

- Proper profiling of the case company.
- Researching what is generally known about the concept of viral growth and virality.
- Identifying different types of viral growth tactics that have been implemented.
- Understanding the reasoning behind specific tactical choices and identifying factors that should be considered when formulating viral growth tactics.
- Recognizing underlying reasons behind successful and unsuccessful implementation of viral growth tactics.
- Performing rigorous analysis of the results and forming a framework that would aid in making solid recommendations for the case company.

The methods used for achieving the objective and sub-objectives of the research study include principles of systematic literature review (SLR), semi-structured interviews and data analysis using qualitative aggregation of the study results.

### **1.4 Research scope**

There are few limitations to the scope of this research study in addition to those set by the topic and the sub-objectives. Research is primarily focused on business-to-business (B2B) software-as-a-service (SaaS) companies, however, insights from other fields such as business-to-consumer (B2C) are transferred if applicable. Additionally, the research study is

focused on presenting new and unconventional tactics, such as viral features built into applications, to drive growth instead of improving the case company's existing ones. Growth in this context means an increase in a company's user base, whether it be paid or free users, unless stated otherwise. Therefore, this research study is focused on such growth tactics that drive increase in the number of users using the company's service. Recommendations that are an output of this research study are intended for the case company Viima Solutions Oy and therefore are not necessarily transferrable to other companies.

Empirical research is conducted on individuals working in various positions and companies. The primary focus has been on individuals that are driven by growth and are assumed to have some knowledge on virality. Positions that were identified include, but do not limit to: marketers, product managers, growth directors, founders and co-founders.

## **2 Case company**

### **2.1 Background and operations**

The case company is a start-up located in Finland and established in 2013. They operate mainly in Finland and do not have a near future plan to open physical locations abroad. However, their application is highly scalable which they aim to deliver to potential international clients via online channels. Additionally, their content marketing efforts are in English in order to attract traffic from international markets. Their existing client base does include some international accounts, but at this stage all of the paying clients are based in Finland with some having operations abroad as well.

The team currently consists of three co-founders, one full-time employee and three part-time employees. Roles and responsibilities are clearly defined among the team members, but as it often is with start-ups the tasks might sometimes diffuse. Previously their sales efforts have been mainly focused on outbound sales i.e. cold calling and emailing. Recently they have been shifting their focus towards inbound marketing by adopting content marketing, search engine optimization and other online growth mechanisms.

## 2.2 The product and its perceived value

The product offering of the case company is a Software-as-a-Service application developed for engaging people in ideation and innovation activities. The context for ideation and innovation can be internal where the user group is the employees of the case company's client. It can also be external where the user group is the customers, partners or other stakeholders of the case company's client. There are basically two levels of user groups: administrators who are usually managers and regular users. The tool is a web-based software that can also run on mobile. Users are able to view ideas in the dashboard, suggest an idea, comment on ideas, like ideas and upload attachments. The administrator can set limitations to how many likes one user has so users have to think hard before liking an idea. Additionally, the administrator can move ideas from one stage to another, merge ideas, adjust all possible setting and manage the content. The case company has recently implemented a gamification feature into the platform with rank boards that make the application more engaging.

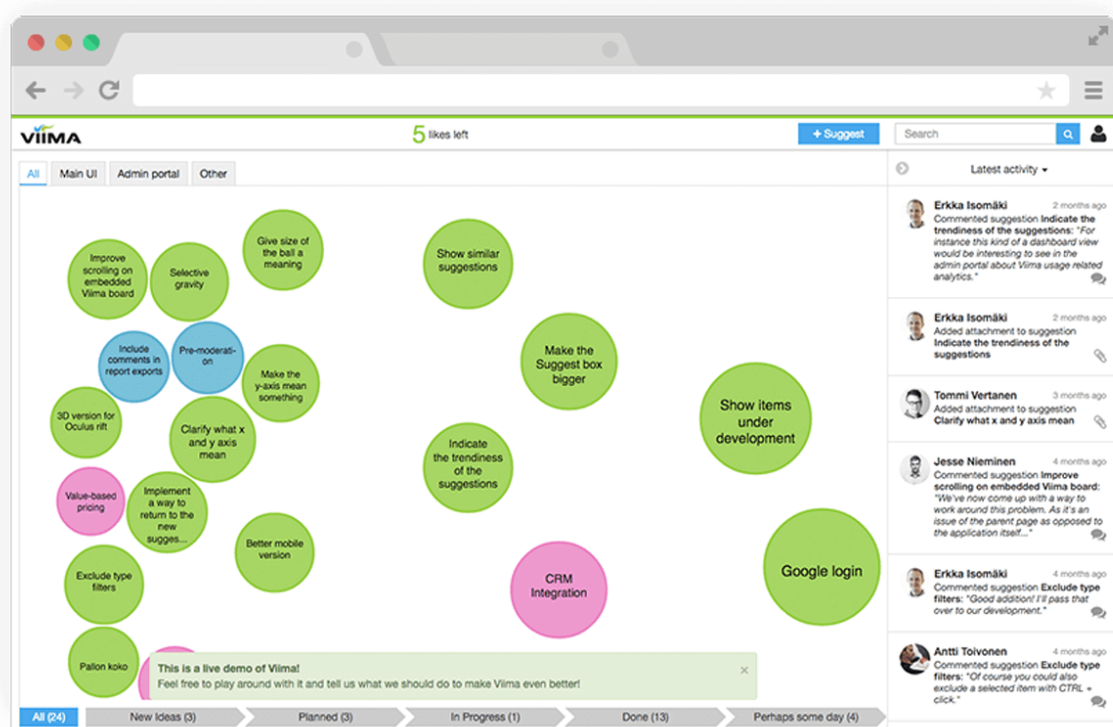
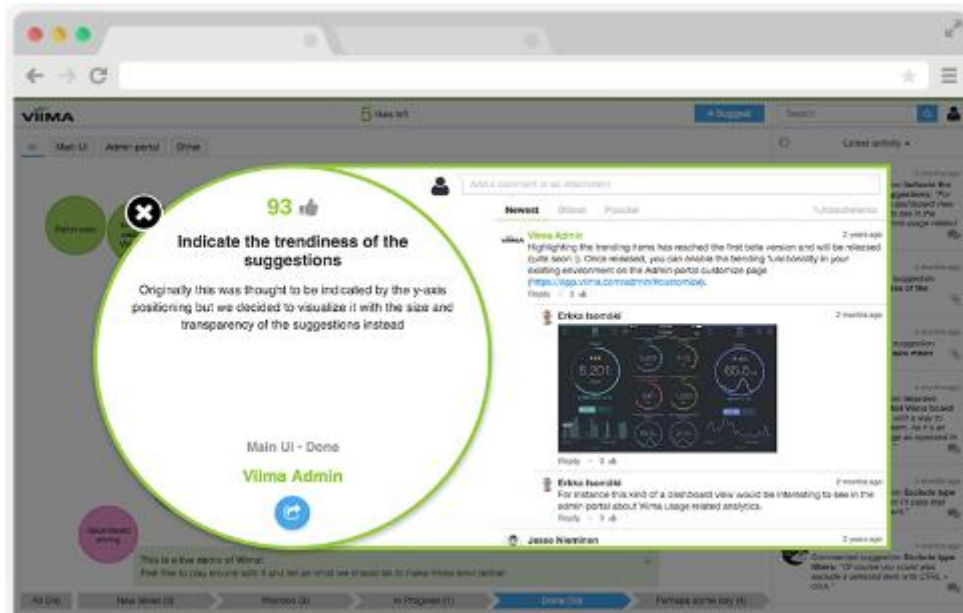


Figure 1. Ideas presented visually in the dashboard in order to provide an intuitive overview

Source: Viima Solutions Oy website. [www.viima.com](http://www.viima.com). Date accessed: 24<sup>th</sup> October 2016.

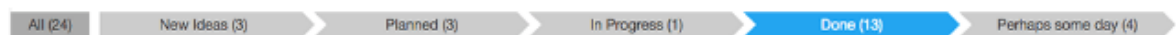
An intuitive overview of ideas is presented at the dashboard to provide insights on potential ideas instantly. The size of the circles define the significance of the idea: the larger the circle the more attention (comments and likes) it has received and therefore should be considered for further evaluation.



**Figure 2.** Users can comment, like and add attachments to ideas

*Source:* Viima Solutions Oy website. [www.viima.com](http://www.viima.com). Date accessed: 24<sup>th</sup> October 2016.

Developing ideas has been made a social and transparent activity within the organization by allowing anyone to pitch in. Users can open an idea and comment it, like it or upload attachments.



**Figure 3.** The progress of ideas is made transparent by providing a quick overview of the entire funnel

*Source:* Viima Solutions Oy website. [www.viima.com](http://www.viima.com). Date accessed: 24<sup>th</sup> October 2016.

Having an idea is merely the beginning. To generate value the ideas must be developed and eventually implemented. This process is made transparent by providing an effortless way to manage and visualize the status of an idea. Additionally, relevant stakeholders are notified automatically about recent development.

The versatility and flexibility of the tool enables the possibility to use the application for any ideation process independent of the industry; ideation should be done in all industries. This

enables a huge market opportunity for the case company, but at the same time brings challenges that come with the lack of focus. However, so far the case company has achieved most success in the financial and insurance sector. Additionally, ideal clients have been profiled as large corporations that have a tremendous employee body and use computers or digital services in their daily work. In such cases, the people in the organization may have little visibility due to the hierarchy in place, but have the required tools for utilising the case company's application which enables transparent and collaborative ideation.

The perceived value that the clients expect to get from the case company's product are:

- New ideas, which can be taken into testing phase and used for developing the business i.e. new business opportunities and revenue.
- Efficiency that comes with employees working smarter in their everyday work.
- Promoting an open culture, which can result in engaged and committed employees or improved loyalty of customers.
- Spread of tacit knowledge: getting directors to understand front-line employees and employees to understand why certain decisions are made.

All of the aforementioned values are challenging to monetize due to the fact that it is extremely hard to aggregate quantitative data that would support the benefits. For instance, the benefits of new ideas are realized in a longer period of time.

The case company's approach for product development is user-centric. In cases where the innovation process is internal, the employees are the focal point. The product is designed to be user-friendly and self-promoting i.e. easy and valuable for the employees to use. This is evident in some of the case company's clients where the weekly activity rate has been 40% (unique weekly logins from the total user base) and monthly 80% (unique monthly logins from the total user base). Additionally, companies that have taken the case company's tool into use on a continuous basis have all remained i.e. retention rate is 100% in these cases. This is not the case for clients that have used the tool for a short-period of time, for instance, in a specific campaign. When it comes to product/market fit, one of the co-founders states that out of the current key clients roughly 80% would be very disappointed if the case company were to close operations the next day.

## **2.3 Current growth engines**

The growth engines the case company relies on are outbound sales and most recently implemented inbound marketing. Their goal is to direct focus more on inbound sales. Additionally, they aim to develop partnerships where co-operation would result in a win-win situation, such as with consulting companies that could use the application in their projects while promoting the case company's application. Partnering with consulting companies augments the value delivered since many clients require consulting in order to achieve the most optimal results and the case company does not have necessarily enough resources to provide consultancy to all of their clients. Regarding viral growth tactics, the case company has one feature in place that is applicable only in open innovation cases: users can share ideas that are posted in the application to their social media channels to get support and acknowledgment from their peers. This was an effective user acquisition method, but since the usage of the application by clients diverted towards inner innovation the usage of this viral mechanism became limited. Another feature that is in place is an on-boarding process in the application. This is not a viral mechanism, but it has an impact on virality. On-boarding users' decreases the time needed to demonstrate the value of the application, which in turn affects sharing. Furthermore, the case company is planning to implement an incentivized referral system into the application, which enables users to invite peers and acquire more access to the application in return. One point to consider is that viral growth for the case company can occur on two levels:

- Intracompany viral growth – employees invite their colleagues to join.
- Intercompany viral growth – employees invite external companies to join.

Intracompany growth is currently encouraged through the administrator user who can invite employees by importing their contact details. Acquiring users in a company through employee referrals has been a matter of chance.

## **2.4 Interest in this research study**

The case company has reached a stage where they are confident about their product offering and the value it generates for their clients. Additionally, the product is scalable in a sense that it can be distributed via online channels and delivered to clients effortlessly. Currently, the key challenge has been in getting more traction. One of the co-founders stated that insights from virality can provide them huge opportunities due to the scalability of their product. Furthermore, they believe it to be the most promising opportunity for driving growth in the long-term. Satisfied clients are seen as the best mean for selling their solution and that is what viral growth is ultimately about; peer-to-peer sharing. For this reason, the case company is interested in virality as a growth engine and is committed to deploy promising tactics rapidly.

## **3 Research Method**

### **3.1 Research design**

Research in its broadest sense is a systematic process, which increases knowledge about a topic as the process unfolds. It is typically divided into two categories of *basic* and *applied*. Basic research is driven by intellectual interest in a phenomenon in which the extension of knowledge is the primary goal. Whereas, applied research is undertaken to improve the quality of practice of a particular discipline. Furthermore, the motivation for conducting research can be classified into four categories (Merriam, 2009):

- Pure research
- Applied research
- Evaluation research
- Action research

Pure research is a process, which contributes to the generally accepted knowledge in a particular field, whereas the other three can be considered as more practical approaches by being more concerned about solving particular problems. The process can be undertaken in order to guide best practices by improving the practice of a particular discipline (applied

research), assess the suitability of certain items or practices for a particular case (evaluation research) or to address a very specific problem (action research) (Merriam, 2009). The motivations for conducting a research study can overlap; however, the primary driver is explicit. In an organizational context, such as the one in this present research study, the latter three are prevalent.

In the scope of this paper, the objective for conducting the research study is to be able to provide recommendations for the case company to harness the benefits of viral growth tactics. Recommendations in this case mean practical initiatives the case company can deploy to drive viral growth. Ultimately, the goal is not necessarily to reach exponential growth but to increase organic growth driven by peer-to-peer sharing. Considering the research objective and sub-objectives qualitative research is a logical approach for conducting this present research study.

Qualitative research has its origin from anthropologists and sociologists who, for instance, studied people, social structures and culture. Regarding the development of what now is called qualitative research, two important mid-twentieth-century publications contributed to its emergence: the *Discovery of Grounded Theory: Strategies for Qualitative Research* published by Glaser & Strauss in 1967 and *Toward a Methodology of Naturalistic Inquiry in Educational Evaluation* published by Guba in 1978 (Merriam, 2009). The evident question is: what is qualitative research? There are various descriptions and definitions for this extensive term. Additionally, there has been even debate on what the best term to use is – naturalistic, interpretive, or qualitative. However, according to Merriam (2009) there are four key characteristics that are present in the vast majority of the descriptions that prevail:

- Focus is on the process, understanding and meaning
- The researcher is the primary instrument of data collection and analysis
- The process is inductive
- The product is richly descriptive

To describe the first of these characteristics Merriam, (2009) quotes Patton “*Qualitative research is an effort to understand situations in their uniqueness as part of a particular context and the interactions there.*” The key concern is understanding the phenomenon of interest from the participants’ perspectives, not the researcher’s. This is sometimes referred to as the *emic* (the insider’s perspective), versus the *etic* (outsider’s view). The



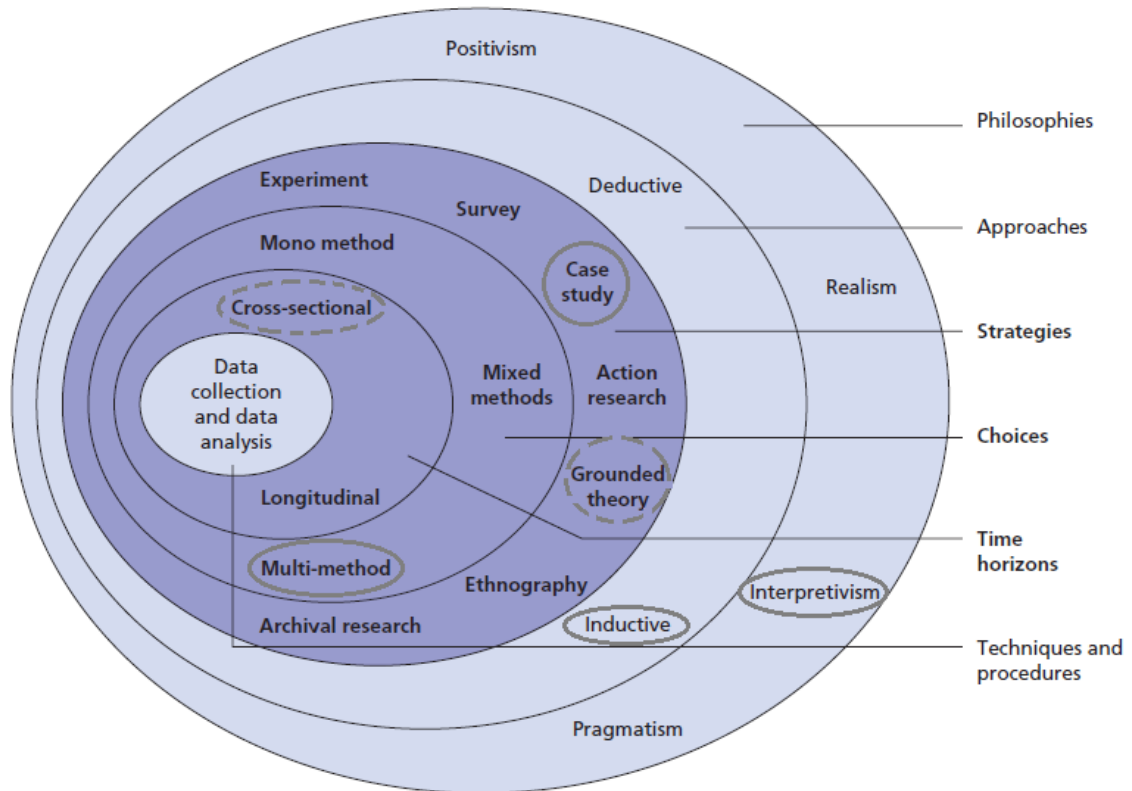
aforementioned points and quote are relatively informative in describing this particular characteristic of qualitative research in contrast with the traditional quantitative methods where the experiments and variables are isolated. Hence, qualitative methods are suited for a case such as in this research study, where it is improbable to isolate the phenomena from its context.

The second characteristic has its own advantages and disadvantages. One of the advantages derives from the goal of qualitative research, which is to understand. A researcher is able to be immediately responsive and adaptive, which makes the human instrument an ideal mean of collecting and analysing data. Additionally, the human instrument enables further comprehension through nonverbal and verbal communication. Other advantages include processing information (data immediately), clarifying and summarizing material, and exploring unusual or unanticipated responses. One obvious disadvantage comes with the subjective views and biases that humans have, which might influence the study. Instead of eliminating these biases and “subjectivities”, Merriam (2009) emphasises on the importance of identifying, monitoring and documenting these in relation to how they might shape the collection and interpretation of data. The author of this present research study aims to follow the best practices of conducting research by identifying and documenting potential biases in the beginning of the study and returning to monitor them as the research proceeds to interviews and data analysis.

The third characteristic is related to the reason for conducting qualitative research, which is often due to the lack of theory or inadequate existing theory to explain a phenomenon. The goal of a qualitative research is to build concepts, hypotheses, or theories instead of testing existing ones with quantitative methods. Hence, “*qualitative researchers build toward theory from observations and intuitive understandings gleaned from being in the field*” and informed by some theoretical framework (Merriam, 2009).

The final characteristic is an outcome of the inductive process, which transfers the academic attainment of a phenomenon in a descriptive manner using images and expressions together with the field material, such as interviews and excerpts from videotapes (Merriam, 2009). This is quite different from how quantitative researchers present their findings, which is often precise numeric data.

After analysing the case in question and the nature of available methods and philosophies, the chosen methods and research path is illustrated in Figure 4 “*The research onion*” (Saunders, Lewis, & Thornhill, 2009).



**Figure 4. The research onion shows an overview of the methods utilised in this research study**

*Source:* Research Methods for Business Students (Saunders et al., 2009).

The role of literature review in grounded theory is to contribute to the findings that emerge from the empirical research through a process of continuous comparison. The key elements of grounded theory are (Calman, 2006):

- Collecting and analysing data simultaneously.
- Creating categories that are based on data instead of pre-existing conceptualisations.
- Discovering basic social processes in the data.
- Inductive construction of abstract categories.
- Theoretical sampling to refine categories.
- Writing analytical memos.
- Integrating categories into a theoretical framework.

Only some of the elements of data analysis is applied from grounded theory in this present research study.

### **3.2 A method for systematically reviewing literature**

The main purpose of using systematic literature review for this thesis was to locate studies which address the objective and sub-objectives of the thesis. It served as a mean to establish what currently is known about the topic publicly. Additionally, the systematic literature review was utilised for generating suitable interview questions to support the interviews that formed the empirical part of this research. Furthermore, the literature review was also used to compare and analyse existing theory to the results that were deducted from the empirical research.

The methodology chosen for this systematic literature review is based on the framework portrayed in the article “*What is a systematic literature review and how do I do one?*” (Siddaway, 2014):

- Step 1: Scoping
- Step 2: Planning
- Step 3: Identification
- Step 4: Screening
- Step 5: Eligibility
- Analysis and interpretation

#### **3.2.1 Defining the objective of the research study**

The first step of the systematic literature review process is to define and clarify the objective of the research study. This present research study is conducted for a case company where the output is to solve a challenge the case company is facing. Therefore, the research study’s objective came quite directly from what the case company would like to get out of this present research study and what they intend to achieve with the results. Some scoping of the

existing literature was deemed necessary to find out what has been done before and what might make a novel contribution (Siddaway, 2014).

### **3.2.2 Formulating search terms, inclusion criteria, and exclusion criteria**

In this step the previously formulated research questions or objectives are broken down into individual concepts to create search terms. The search terms help in finding relevant articles. Since it is common to use a range of terms to describe the same phenomena, it is recommended to create alternative search terms as well. The search terms should fall on the side of sensitivity (finding as many articles that may be relevant). After the search terms are generated, preliminary inclusion and exclusion criteria must be formulated, which are reviewed in the initial stages of the literature searching and sifting process. Creating clear record keeping systems and keeping meticulous records by working systematically is also recommended before doing any searching and sifting of the literature. In practice, this meant that the search terms were derived from the research objectives by selecting the most important keywords and their combinations, deciding on what the inclusion and exclusion criteria would be, for instance, evaluation based on title and/or abstract and finally creating a table for keeping record of searches and the results together with the literature title, source link and notes (Siddaway, 2014).

### **3.2.3 Executing an extensive search and inspecting the results**

After finishing the second step, the generated search terms are used for executing an extensive search from at least two different electronic databases and other potential sources. The databases must be relevant to the topic for optimal results. Then the search results are inspected according to the pre-determined exclusion and inclusion criteria. For this present research study five databases were chosen. The chosen databases also include search engines for a larger collection of databases and articles, for instance, Google Scholar. The reference section of suitable work for inclusion was also utilised for finding potentially relevant work (Siddaway, 2014).

#### **3.2.4 Evaluating and documenting relevant articles**

In this step each article matching the search criteria were evaluated based on their title and/or abstract and if they were found to be relevant for the objective of this present research study, they were documented by search query and database along with notes about the content. After this, the full-text version of the work was obtained and transferred to a reference manager (Siddaway, 2014). For this research study a free reference manager and portable document format (PDF) organiser, Mendeley, was used.

#### **3.2.5 Extracting relevant information for the research study**

The final stage of the systematic literature review is to sift through the full-text version of potentially eligible articles and works and extract relevant information to be included in the research study. In this stage, the focus shifts from sensitivity to specificity (carefully making sure potentially eligible studies are indeed relevant and appropriate for inclusion) (Siddaway, 2014).

#### **3.2.6 Analysing and interpreting the findings**

The systematic literature review steps are followed by analysis and interpretation. As the sample size was still rather limited, a thorough statistical analysis of the findings was not deemed to be beneficial. Instead, the author of this present research study performed a qualitative aggregation of the study results for each of the related topics instead (Siddaway, 2014).

### **3.3 Research process**

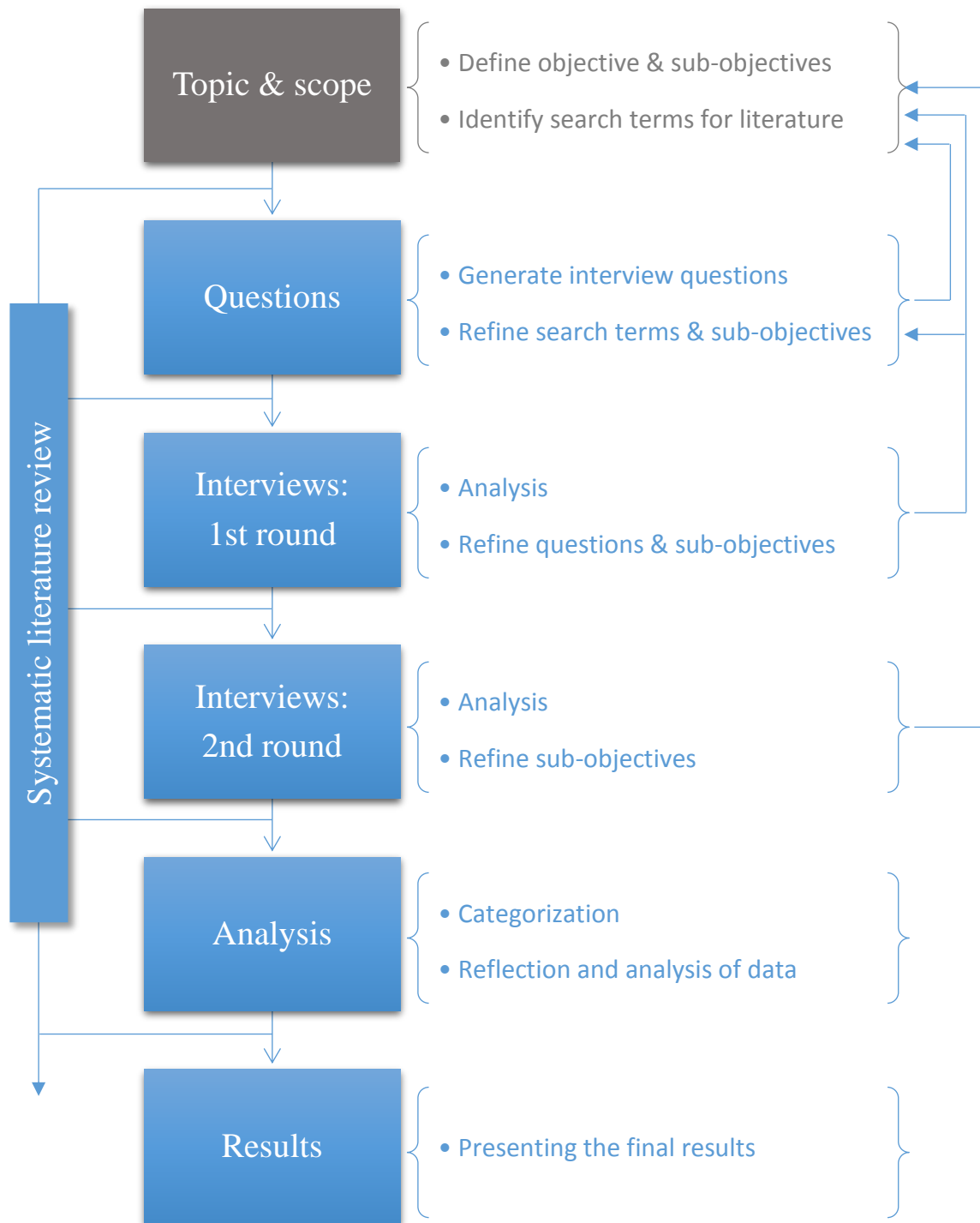
The research process began with a more specific selection of the topic and the initial scoping of the research study in co-operation with the case company and supervising professor,

which led to the composition of the research's objective and sub-objectives. Based on this an initial systematic literature review was performed. The systematic literature review was utilised to improve upon the initially defined objectives and to formulate interview questions.

After the preliminary design of the research to be conducted was completed, the first round of interviews, consisting of two interviews, was performed and the results and questions analysed to identify areas of improvement in both the research and interview questions. Simultaneously, the systematic literature review was continued throughout the initial interviews and analysis of results with the aim of improving the remaining interviews.

Based on the insights acquired from the initial interviews, continued systematic literature review and analysis of the aggregated data, the interview questions were altered so that they would be more coherent with the research objectives. This meant removing certain themes, adding new ones and modifying existing ones. The remaining interviews were conducted with the questions that were a result of the iteration process.

The interviews were audio-recorded and the key points documented as a bulleted list during the interviews. Audio recordings were utilised in case some points required elaboration. Moving on, the interviews were analysed and the results compared to the existing literature to fuel additional analysis and reflection of the final results. Literature review was carried out throughout the research process to provide adequate answers to questions that emerged from the interviews. Therefore, the research process was a combination of both inductive and deductive elements. The research process is illustrated in Figure 5.



**Figure 5. A visual representation of the research process which constituted of empirical research and a method for systematically reviewing literature**

### **3.4 Data Collection**

The objective of this paper determined the boundaries of the study, which in turn affected the choice of the research method. Case study as a data collection method was deemed to be the most applicable one for the objective of this research study. Reasons for justifying this choice are that the author had to understand:

- The unique need the case company has.
- The business of the case company.
- The case company's product offering, current operations and growth engines.
- Implemented viral growth tactics in other companies.

More specifically, the data was collected based on a number of interviews from multiple companies. The reasoning behind this was:

- The author of this present research study had to understand and explain how and why a viral phenomenon occurs.
- Knowledge and experience on engineering viral growth is scarce and dispersed.
- The prior experience in implementing viral growth tactics in the case company was limited.
- Hypotheses reached from the study could not be tested within the time-span of the research due to limited resources.

To understand the phenomenon thoroughly it was necessary to gather data from individuals that have experience or knowledge on the topic. Furthermore, the choice of performing the research study as a case study was justified by the fact that the objective of this research study was to solve a unique need the case company had (Yin, 2009).

The author took a tentative approach at the case study by removing possible limitations that may be posed from having preordained theoretical perspectives or propositions. This was due to the reason that it is impossible to know what the interesting findings will turn out to be; hence, one should not limit the findings by having biases. Instead, hypotheses should be derived from analysis of the data (Eisenhardt, 1989).



As the nature of the case required investigating the perceptions and understanding of certain aspects of individuals from multiple organizations, the natural way to conduct the data collection was interviews due to the interpretive epistemology of the author of this present research study. Additionally, managers, whom form the majority of the interviewees in the study, are said to be *“more likely to agree to be interviewed, rather than complete a questionnaire”*. The author’s chosen method is further justified by the explanation of Saunders et al. (2009): *“Semi-structured and in-depth interviews provide you with the opportunity to ‘probe’ answers, where you want your interviewees to explain, or build on, their responses.”* Furthermore, semi-structured interviews may lead the discussion to areas that were not considered by the researcher, but prove to be crucial for addressing the objectives of the study (Saunders et al., 2009).

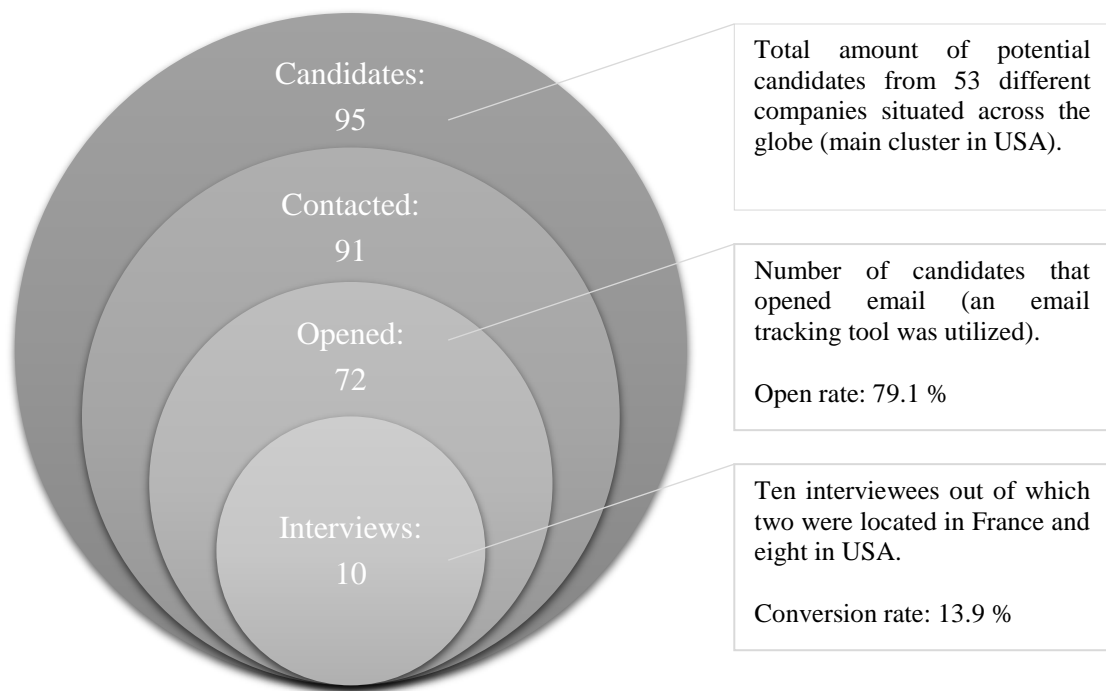
The chosen method for conducting interviews was one-on-one, online interviews using web meeting tools, such as Skype™. This was due to the limitations posed by the location of the researcher (Finland) and locations of the interviewees (France and United States of America). These interviews were carried out as open-ended semi-structured interviews based on Eisenhardt’s (1989) advice. In a semi-structured interview *“the researcher will have a list of themes and questions to be covered, although these may vary from interview to interview. This means that you may omit some questions in particular interviews [...]. The order of questions may also be varied depending on the flow of the conversation.”* (Saunders et al., 2009).

### **3.4.1 Sampling**

Interviewees were selected based on several criteria. The process of sampling was as follows:

- Initial screening, selection and documentation of companies based on certain requirements, such as industry, experience or knowledge on virality, and in some cases apparent achievement of viral growth.
- Relevant positions within the companies were identified based on the research topic and objectives.

- A shortlist of candidates was aggregated together with their official position name and contact details. The perceived significance of the topic for the job role of the interviewees affected the shortlist. Founders and co-founders, vice president of marketing, growth directors, growth hackers and product managers were well represented in the shortlist.
- Certain candidates came about through referrals and their activeness on the field.
- The final distribution was a result of the availability of the shortlisted candidates.



**Figure 6. Overview of the sampling process and the final interviewee candidates**

All candidates were approached via email due to the limited access to phone numbers. This affected the conversion rate of candidates that eventually agreed to be interviewed. A summary of the results from the sampling process is presented in Figure 6. Although 95 candidates were identified, the author of this present research study did not manage to acquire contact details of four candidates. The conversion rate is calculated in relation to the opened contacts. Out of the ten interviewees, one came from a direct referral of another interviewee. A point to consider is that the identified list of candidates in this research study is not exclusive i.e. more candidates could have been identified if required. Additionally, the interview from the case company is not included in this listing.

### **3.4.2 Interview questions**

The first round of interviews were conducted as semi-structured interviews with pre-defined questions that were derived from the research objective and sub-objectives. The first interview questions were used for two interviews. After analysing the results from those two interviews, some modifications were made to the interview questions. As a result of this iteration process, new interview questions were used for the last 8 interviews. The central concepts in the interviews were:

- Virality in business-to-business companies
- Key drivers of virality
- Main challenges in achieving viral growth
- Viral growth tactics
- The process of identifying, formulating and implementing viral growth tactics

## **3.5 Analysis of the Data**

The analysis of the data was performed based on the bullet lists produced during the interviews. In case some points required more clarification, the author utilized audio recordings. Analysis of the data followed the process outlined below.

1. Read all the summaries made during the interviews.
  - This is quite a straightforward process. The author read through the interviews in order to get an overall picture of the discussions that occurred with the interviewees.
2. Highlight the key points of each interview on the second reading.
  - The author highlighted all of the points that were either considered important by the interviewees or interesting by the author.
3. Filter out irrelevant points.
  - Included filtration of the highlighted points, which meant excluding irrelevant points from the perspective of the research objective.
4. Compile the key points and generate a list.
  - The highlighted key points were put together and transferred into a bulleted list.

5. Initial categorization of the relevant key points.
  - In this step, the author categorized each of the key points and statements mentioned by the interviewees. This was done by transferring the compiled key points from the previous step into a spreadsheet. Key points that were related to each other were inserted into separate cells under the same column. Each cell was colour coded so that the author could link the item in the cell to its corresponding interviewee in case it was necessary to return to the interview summaries or recordings.
6. Refining the key points and clarifying the choice of words.
  - Duplicate points were merged and the descriptions refined to be as concise as possible but still representative of the original statement by the interviewees.
7. Defining each category.
  - The key points under each column were grouped into their distinct categories. The categories were given a headline.
8. Comparing the findings to the summarized interviews.
  - The final step was to compare the findings back to the original interview documents in order to assess their validity in relation to the original statements made by the interviewees. Furthermore, it served as a mean to identify relevant quotes that explain the findings in a more comprehensive manner.

To minimise mistakes and reduce the possibility of careless interpretations by the researcher, an iterative approach was utilised at different levels of the analysis process.

## **4 Viral growth**

### **4.1 Driving viral growth methodically**

Academic research on viral growth is extensive. The concept is originally derived from an epidemiological term relating to the spread of infectious disease (Fisher et al., 2014). In the field of business, and more specifically, in the field of marketing Klopper and Montgomery (2000) claim that the concept of virality has been described in the literature for more than 30 years but termed word-of-mouth or the diffusion of innovation and nowadays viral marketing. There is some disagreement in the existing literature whether word-of-mouth and viral marketing are the same or essentially different concepts, however, most authors focus

on the progression from word-of-mouth to viral marketing (Nemanja, 2012). Viral marketing encourages individuals to pass on a marketing message to others, thus creating the potential for exponential growth in the exposure and influence of the message (Klopper, 2002).

The term *viral marketing* can be traced back to Steve Jurvetson and Tim Drapper in 1997 (Boying, Eugene, & Chong, 2015), which is also described by various other terms such as buzz marketing, word-of-mouth, viral stealth marketing and referral marketing (Nemanja, 2012). There is an extensive amount of literature on viral marketing. Searching on Google Scholar with the term “*viral marketing*” gives 23,000 page results. However, most of the literature is concentrated on viral marketing campaigns for existing products and less attention has been paid to whether and how firms can design products that are themselves more likely to go viral (Aral & Walker, 2011a). While insights from these resources are transferrable and useful, there is a lack of extensive data on the topic this present research study focuses on.

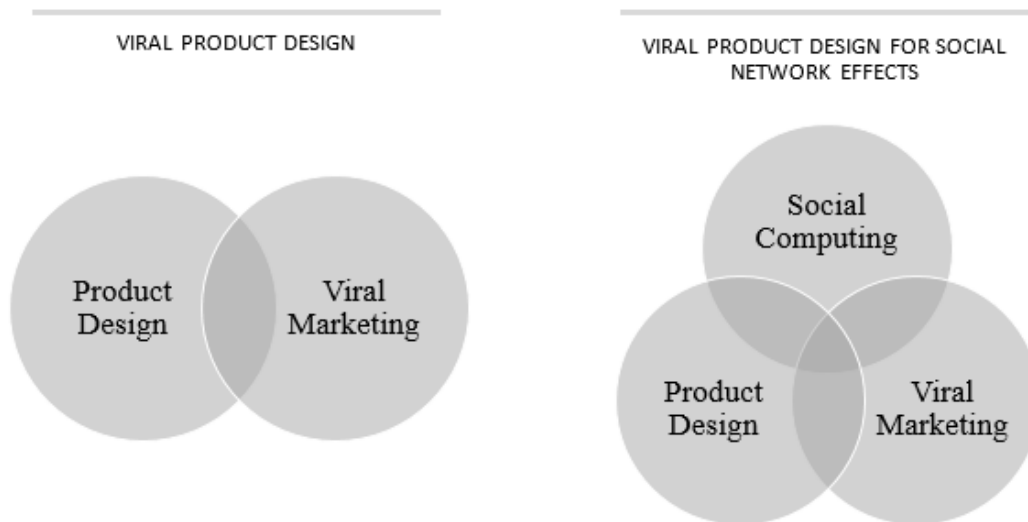
The lack of literature can be seen from simple searches made on chosen databases. For instance, Google Scholar gives 18 page results for “*inherent virality*”. Inherent virality is built into the product and is said to be the best kind of virality (Croll & Yoskovitz, 2013). Many successful companies that experienced viral growth are said to be inherently viral, for instance, Skype, WhatsApp, Facebook, PayPal, Snapchat and Slack. Furthermore, four qualified papers were found on Google Scholar and one on EBSCOhost with the search term “*viral product design*”, which is a term formulated by Aral and Walker (Barbieri & Bonchi, 2014). Additionally, an email with one of the interviewees, whose expertise is in applied systematic viral growth models, suggests that there has been a lack of interest on this topic in the academic field.

It seems that research on formulating and implementing unconventional viral growth tactics is yet quite far from a mature state. As a result of this, the best practices regarding engineering viral growth are not very thoroughly studied.

#### 4.1.1 Frameworks for engineering viral growth

Aral and Walker (2011) created the term *viral product design*, which they define to be the process of explicitly engineering products so they are more likely to be shared among peers. Engineering features that drive viral growth has existed since the first chain letter was sent in 1888. Today, viral features have become more sophisticated as products use information technology (IT)-enabled features like automated notifications and personalised invitations. However, regardless of the popularity and the central part viral features play these days in product design and marketing campaigns, there is almost no empirical evidence on the effectiveness of such features in generating social contagion and product adoption (Aral & Walker, 2011a). Furthermore, Aral and Walker (2011) distinguish between viral characteristics and viral features of a product, where the former refers to the content of the product and latter corresponds directly to viral mechanisms associated to the product (Barbieri & Bonchi, 2014).

Another design paradigm was presented by Zhou (2014) called *viral product design for social network effects*, which the author suggests as bridging the gaps between the domains of engineering design and viral marketing by incorporating social network effects (Zhou, 2014). While viral product design is a combination of product design and viral marketing (Barbieri & Bonchi, 2014), both widely studied concepts, Zhou's (2014) design framework also integrates peer influence of social networks, which sheds light on the social aspect of design. The author elaborates the design paradigm to be a process of explicitly engineering both viral product attributes and viral influence attributes into products so that they are more likely to be shared and to generate influence in its adoption process. The optimal output is considered to maximize product adoption in the context of online social networks from the perspective of viral marketing, while considering customer preferences and engineering concerns from the perspective of engineering design (Zhou, 2014). This design framework seems to go deeper than the other in that it also takes into account the mechanism of product diffusion and adoption, one of the core questions in social network analysis in the domain of social computing, which is concerned with the interaction between social behaviour and computational systems.



**Figure 7. Disciplines of the two frameworks show that the viral product design for social network effects is an enhanced model of the viral product design framework**

The aforementioned design frameworks are not completely disparate from each other as can be seen from Figure 7. The viral product design for social network effects can be rather considered as a progression from viral product design. Insights from both frameworks are used in this present research study.

One interesting framework for engineering viral growth is the *six STEPPS* (Social currency, Triggers, Emotions, Public, Practical value and Stories) presented by Berger (2013). It takes a different approach, in comparison to the two frameworks discussed previously. This framework looks at engineering viral growth from the perspective of psychology (science of social transmission to be more precise). Berger (2013) explains what makes content contagious. By content the author means an array of things such as stories, news, information, products, ideas, messages, and videos. By contagious the author means likely to spread via peer-to-peer word-of-mouth and social influence, which is the driving force of a viral phenomenon. Berger (2013) identifies six key principles of contagiousness, which constitute the six STEPPS: social currency, triggers, emotion, public, practical value, and stories. The presence of each principle increases the probability of contagiousness, but the inclusion of all elements simultaneously is not necessary to make a product or idea contagious (Berger, 2013). The table below summarizes the key points of each principle.

**Table 1. Berger's six STEPPS framework provides insights on what makes content contagious (Berger, 2013)**

<b>Principle</b>	<b>Key point</b>
Social currency	What one talks about has an influence on how others see that individual e.g. smart or dumb.
Triggers	Stimuli that prompt people to think about related things e.g. cat and dog.
Emotion	People respond to content that raise emotions e.g. a humorous video.
Public	People have a tendency of imitating others so one must aim to create content that is observable publicly.
Practical value	People like to help so creating content that seem helpful will evoke spreading.
Stories	Embed products and ideas into stories that people want to tell.

As is evident, engineering viral growth is not merely about viral marketing, but is a combination of multiple disciplines which ultimately intend to achieve peer-to-peer sharing and influencing at an exponential rate. Aral and Walker (2011) illustrate the explosive impact on adoption when viral features were added to a software application, and state that companies can engineer digital and even physical products to increase peer-to-peer promotion, which can be up to ten times as effective at increasing adoption as traditional banner ads and up to twice as effective as e-mail campaigns (Rakić & Rakić, 2014). These developments to the application are further distinguished to be specific viral characteristics and features into a product's design so that it generates peer-to-peer influence, which eventually encourages adoption.

Viral characteristics are fundamentally about its content and the psychological effects the content can have on a user's desire to share the product with peers. Viral features, on the other hand, concern how the product is shared, which may enable communication, generate automated notifications of users' activities, facilitate personalised invitations, or enable hypertext embedding of the product on publicly available websites and blogs. The most widely used viral features are personalised referrals and automated broadcast notifications (Aral & Walker, 2011a). Zhou (2014) refers to these as viral attributes, which are further

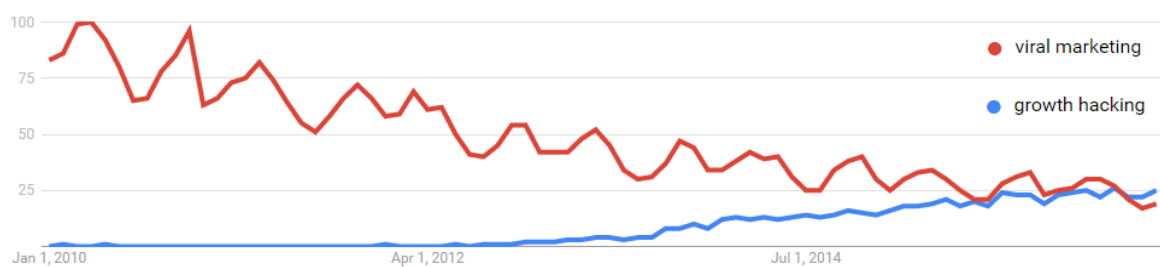


broken down into viral product attributes (viral characteristics) and viral influence attributes (viral features). The author goes on to suggest that in order to maximise influence one must identify seed customers and incentivise them, which as a result influences the largest possible number of other customers to adopt a product. These seed customers are influential opinion leaders in a social network, for instance, celebrities in Twitter (Zhou, 2014).

The design frameworks suggest that for a company to engineer viral growth into their product, they must have knowledge and experience on multiple disciplines. However, that alone does not imply anything. The foundation for being able to formulate and implement any viral growth tactic requires facilitating, at least to some extent, the co-ordination and co-operation between cross-functional teams, especially between the technical and marketing department.

#### 4.1.2 Growth hacking

Since 2010 a term, *growth hacking*, created by Sean Ellis has been getting more attention. It does not have a single definition and there is a lot of debate about the usefulness of the term, which some consider to be a new buzzword for work that has existed already (Herttua, 2016). Google Trends show *growth hacking* exceeding *viral marketing* in terms of trending search topics in Figure 8.



**Figure 8. Google trends shows growth hacking to exceed viral marketing in trending search topics**

*Source:* Google Trends ([www.google.com/trends](http://www.google.com/trends)). Trend query ran on 11<sup>th</sup> August 2016.

A growth hacker is said to have a narrower focus on growth in comparison to marketers, but still multiple areas of responsibilities. They are said to be multi-disciplinary individuals that combine activities from at least the traditional functional areas of marketing, sales, product development and business intelligence. While there has been a barrier previously between

the product and the marketing team i.e. one being responsible for coding the product and the other for acquiring clients, a cross pollination between the departments forces those in charge of growth to learn what an application programming interface (API) is and those in charge of programming to think about customer experience within the product. A distinctive feature and goal of growth hacking is to integrate user/market intelligence, user experience design and optimization, product development and marketing activities (Herttua, 2016; Holiday, 2013; Patel & Taylor, 2013; Peters, 2014).

Although there is debate on whether growth hacking is just another buzz word or the marketing of 21<sup>st</sup> century, the definition of growth hacking fits well into what the viral design frameworks are based on.

#### **4.1.3 Challenges with engineering viral growth**

Finding a formula that can replicate viral diffusion is described as the holy grail of online marketing. Furthermore, Hood (2012) goes on to say that “*creating a viral ad is like stumbling upon a gold mine*” (Hood, 2012). Klopper (2002) supports this school of thought by stating that “*one cannot engineer viral marketing*”. A viral campaign cannot be created purposely because it is more about chance than planning. The standpoint of this discussion comes from the argument that marketers can influence on the content, but not determine their distribution spread, with the exception of the seed consumers they initially intend to target (Klopper, 2002). There is, however, also opposing views in the viral marketing literature. Viral marketing is said to require sophisticated skills and unique creativity, constant follow-up and improvement as well as content creation that takes emotional aspects into consideration in order to increase the future probability of success (Berger & Milkman, 2013; Klopper, 2002; Zhang, 2011). These imply that possibilities exist for engineering viral mechanisms and campaigns that have a higher probability to succeed. Furthermore, while virality has been associated with multiple accidental success stories, it is not merely accidental. Successful products are inherently worth sharing and by deliberately facilitating and encouraging their sharing they can spread among social networks much faster and further (Peters, 2014). As a result of this, the author of this present research study would argue that virality can indeed be engineered, especially when it comes to digital products

and services that are equipped with top-notch analytic tools that enable data-driven decisions. This is supported by the fact that the papers on viral marketing are mostly focused on marketing in a traditional sense and not so much on whether and how a company could design products that are more likely to go viral.

While there might be opposing views on whether virality can be engineered or not, there is a consensus on the fact that virality is very difficult to accomplish. For every high profile example of a viral product, there are many more unsuccessful attempts that one never hears about. Moreover, predicting successful and unsuccessful attempts is extremely hard if not impossible. Even experienced practitioners that have created successful viral projects are rarely able to repeat their success (Watts et al., 2007). The low success rate suggests inconsistency in the applicability and transferability of viral tactics. This is also acknowledged in a viral product design article where the authors state *“The difficulty, however, is in determining what works and what does not.”* (Aral & Walker, 2011a). Hence, efforts invested on going viral might turn out dissatisfactory for most cases, which in turn could position virality as a growth strategy in bad light. To avoid wasting resources on growth tactics that fall short on expectations, a company should above all evaluate the potential of their product’s virality and set realistic goals.

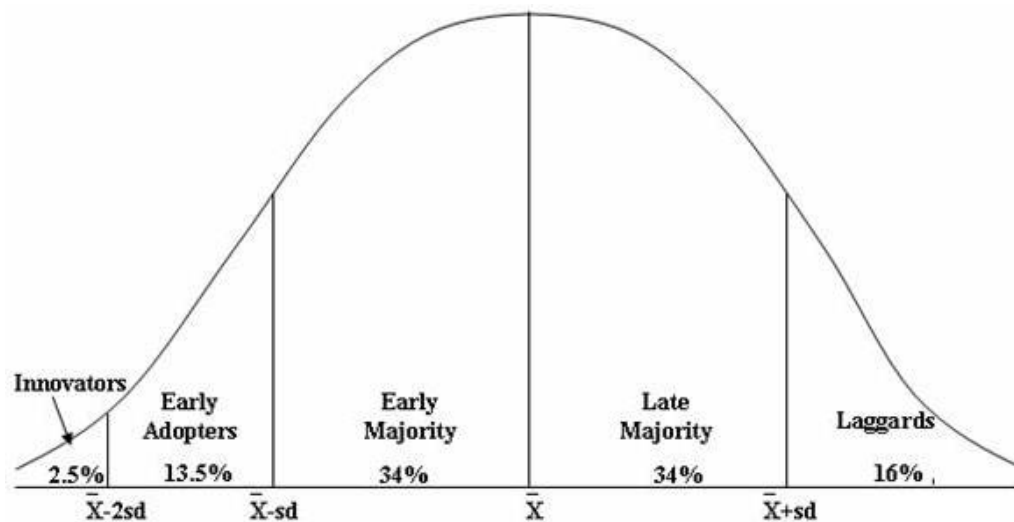
There is a limited amount of studies on the domain of engineering viral growth. However, by combining findings from viral marketing and viral product design studies, the main challenges that emerged were:

- Inconsistency in applicability and transferability of viral tactics
- Challenges related to diffusion within a social network
- Issues in identifying potential product features for development
- Difficulties in data collection and analysis
- Social cost of viral messages

The first challenge identified is that of inconsistency in applicability and transferability of viral tactics. There are many factors that affect virality, thus it is understandable that viral tactics that work for one product might not work for another. Furthermore, virality is a result of peer-to-peer sharing where the propagator is the user of the product. Users interact with products in different ways and there’s different touch points in each product where sharing makes sense. The viral growth tactics must be built around that notion. To tackle this

challenge, a company must be fully aware of how and for what purpose their product is being used, at which stage a user would be willing to share and how that sharing could be facilitated and encouraged.

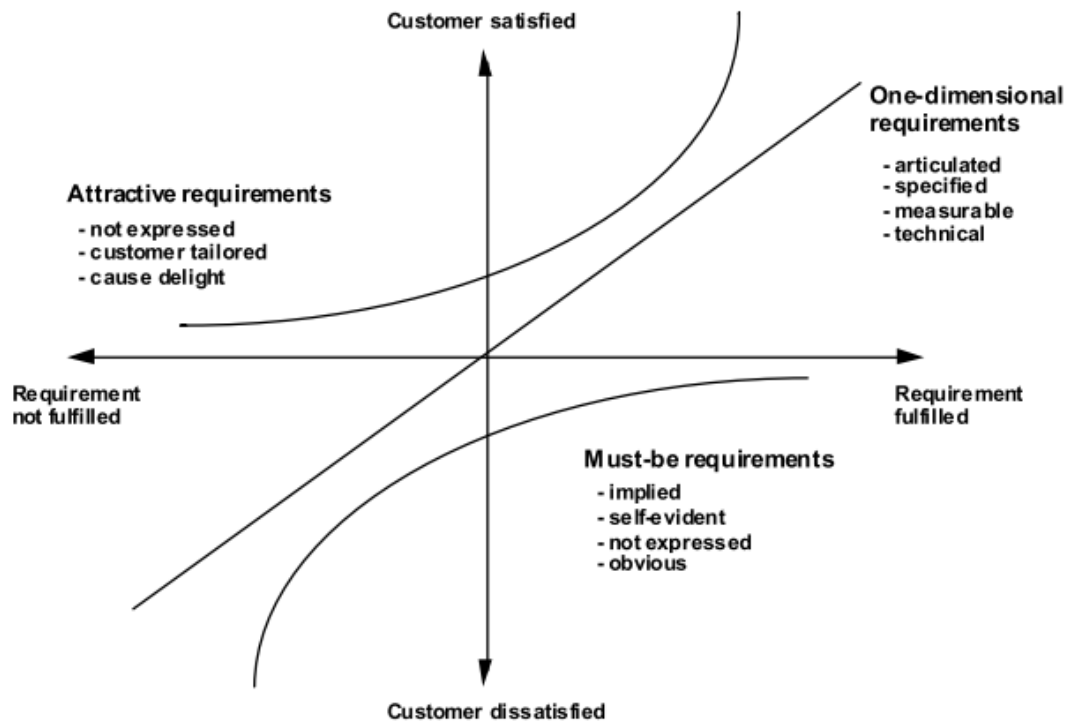
The second challenge relates to diffusion within a social network. This is also affected by multiple factors including, but not limited to, the innovation itself, the diffusion channels, time, social system, cultures, customs, and rituals. To tackle this challenge, it is important to understand how the dynamics of adoption are likely to unfold within an underlying social network. While this has been widely studied in viral marketing, the interplay between product design and viral marketing in the context of online social networks is still largely unexplored. Additionally, there is also a lack of research work focused on the internal dynamics of how customer networks are organized and how customers influence each other (Aneesh, 2015; Zhou, 2014). This, for instance, poses problems, which has been shown to be a non-deterministic polynomial-time hard problem, on identifying an optimal set of seed customers within a population in order to maximize product adoption. Seed customers, which the success of viral effect as a social epidemic is heavily dependent on, are often offered incentives by firms to influence the largest possible number of other customers to adopt a product. Determining the appropriate budget for seeding a particular network is also to some extent considered challenging (Anand & Mathew, 2014; Barbieri & Bonchi, 2014; Stonedahl, Rand, & Wilensky, 2010; Zhou, 2014). Some light can be shed into this challenge with the help of threshold theory and diffusion of innovation. The diffusion research identifies five categories of adopters shown in Figure 9. Innovators have the lowest activation threshold and play a gate-keeping role in the flow of new ideas into a social system. However, early adopters play a greater role in social systems by serving as a role model for other members of a social system. This adopter category can work as the seed customers, which is a form of viral influence attribute, to drive adoption at a higher rate. Some examples of such social hubs within a social network include, but do not limit to, celebrities in Twitter (Rogers, 2003; Zhou, 2014) and bloggers (Nemanja, 2012). Needless to say, identifying seed customers in the business-to-business space is much more complex, due to the multiple layers of influencers and decision makers within organizations. Additionally, the network effects are clearly more limited than in the business-to-consumer space, which in turn sets limitations on the viral reach of a business-to-business product.



**Figure 9. The five categories of product adopters can aid in identifying the proper seed customers which is required for driving adoption at a higher rate**

*Source:* Diffusion of Innovations (Rogers, 2003).

The next challenge touches the area of product development. An American well-known E-business advisor Dr. Ralph F. Wilson summarized effective viral marketing into six basic elements from which one was providing valuable products and services (Zhang, 2011). Anand & Mathew (2014) state the uniqueness of a product to be one of the two criteria which leads to a product going viral. Croll & Yoskovitz (2013) argue that one does not have a solid enough foundation for growth without having a core set of features that gets used regularly and successfully, even by a small group of initial users. These points are quite obvious since often market adoption boils down to the value the product is perceived to deliver. Moving on, some of the challenges that come with product development in terms of virality include, but do not limit to, identifying latent customer needs and influence maximization with product design (Barbieri & Bonchi, 2014; Zhou, 2014). Latent customer needs help in identifying product attributes that may be viral. According to the Kano model, there are three kinds of product attributes, shown in Figure 10, from which the attractive quality attributes provide unexpected delight for customers. These attributes, which correspond to the latent customer needs, are non-obvious and very difficult to identify (Sauerwein, Bailom, Matzler, & Hinterhuber, 1996; Zhou, 2014).



**Figure 10. Kano's model of customer satisfaction depicts that attractive requirements can provide unexpected delight for customers which in turn can drive virality**

*Source:* The Kano Model: How to Delight your Customers (Sauerwein et al., 1996).

The other challenge mentioned in product development was that of influence maximization with product design. When doing influence maximization with product design, there is no clear property one can use. Adding a new feature to the current feature set, might well decrease the viral potentialities of the new product (Barbieri & Bonchi, 2014). The concepts of perceived usefulness and perceived ease of use are said to be the cornerstone for a practitioner-focused model that helps explain how and why certain products go viral. These concepts should be grasped to a great extent by those who are responsible for building and defining products. Furthermore, by engaging with users in a process of co-production can increase the chance of achieving viral success (Fisher et al., 2014). Fisher et al. (2014) go on to build two models in which the first one describes a virtuous cycle of customer misbehaviour that helps fuel viral growth and the second describes how viral growth and viral success is achieved. Other methodologies and frameworks that may be useful can be found in the domain of product development and service design thinking.

The next challenge is related to data collection and analysis. In relation to the previous challenge, customer needs are often expressed in linguistic terms, which are often abstract,

fuzzy or conceptual, thus making linguistic analysis challenging. Additionally, the data collection related to customer needs can be time-consuming and costly (Zhou, 2014). When it comes to viral product design, evaluating the impact of viral features is difficult because peer effects and word-of-mouth are typically endogenous, and there are numerous statistical challenges which prevent clean causal estimation of relationships between interventions and outcomes (Aral & Walker, 2011a). Furthermore, a viral phenomenon is challenging to measure due to the number of forms that rapid communication can manifest itself in (Anand & Mathew, 2014). Using randomized tests, which are not subject to any bias, to identify peer influence in networks and measuring the impact of viral features using event-driven analytics tools can prove to be beneficial in defining the success of a viral feature.

The last of the challenges listed is the social cost of viral messages. With the growth and evolution of the internet, spam and e-mail-based viruses have cluttered electronic communications, making viral marketing problematic and challenging to deploy (De Bruyn & Lilien, 2008). The obvious problem here is that viral marketing appears to be an open invitation to spammers. Bombarding users with messages from peers may reduce the overall quality of the user experience and generate negative publicity for the company. This is especially the case with automated broadcast notifications, a viral product feature that has proven to be extremely powerful in increasing local peer influence and social contagion (Aral & Walker, 2011a; Klopfer, 2002). The underlying question is: how should a company optimize viral messages so that engagement is maximized and churn minimized? One way to do this is by taking into account the psychological aspects of content so that the benefit of receiving the message is significantly greater than the nuisance of receiving and/or passing it on. When it comes to personalized messages and referrals, adopting optimally designed incentive tactics could encourage users to be more active to share without the negative association of spamming. Finally, the social cost of automated broadcast notifications can be reduced by limiting impersonal messages in adaptive ways (Aral & Walker, 2011a; Klopfer, 2002). However, to be successful in this requires a combination of skill-sets, which can be attained, for instance, by facilitating and encouraging co-operation between cross-functional departments, such as marketing and research and development (R&D), or hiring personnel that possess both the soft and hard skills-sets.

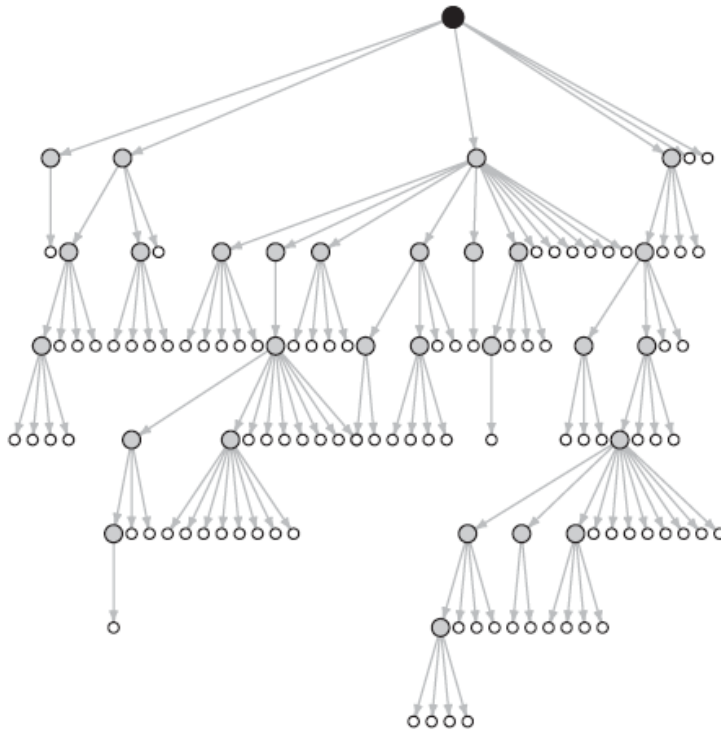
One could argue that engineering viral growth is for the most part like any other product development or marketing process where frameworks, such as, Moore's crossing the chasm,

stage gate new product development model and service design thinking can serve as a valuable tool. While these could provide a solid starting point for engineering viral growth, they provide no answers to the specific challenges of maximizing adoption in social networks by designing viral product features that encourage peer-to-peer sharing.

## 4.2 Viral phenomenon

When something is said to have “gone viral”, it is generally understood not only to have rapidly become popular, but also to have attained its popularity through some process of peer-to-peer contagion, analogous to the spread of a biological virus. Many theoretical models of adoption describe this phenomenon as a process in which an “infectious agent” – an idea, product, or behaviour – is assumed to spread from “infectives” to “susceptibles” via some contact process. The notion of viral spread implies a rapid, large-scale increase in adoption driven largely by peer-to-peer spreading, which is comprised of a multigenerational branching process in which any one node directly “infects” a few others (Goel, Anderson, Hofman, & Watts, 2016). Patel & Taylor (2013) describe something that has “gone viral” in the following way: *“If you are able to use a product tactic in such a way that for every visitor that enters your product, they bring along more than one other person into your product, then you’ve created a viral coefficient of over one. You’ve achieved exponential growth. You’ve gone viral”*.





**Figure 11. Multigenerational branching process illustrates how one node can infect multiple nodes thus driving large-scale adoption of a product rapidly**

*Source:* Branching Dynamics of Viral Information Spreading (Iribarren & Moro, 2011).

The two key factors that define a viral phenomenon are the process of product or information spreading in the population, and the time rate at which the diffusion happens. The function of time plays as the distinctive feature, which differentiates a viral phenomenon from other forms of growth. The element of speed is evident in a viral phenomenon, where the trajectory rate of growth follows an exponential relationship. Empirical research also shows that “*a viral phenomenon can get triggered at any point during the lifecycle of the product and the viral growth characteristic does not necessarily sustain throughout the lifecycle of the product*” (Anand & Mathew, 2014).

#### **4.2.1 Reasons for the occurrence of viral phenomenon**

There are various reasons for the occurrence of viral phenomenon. Quality is one factor why some products and ideas become popular. People tend to prefer products that offer better functionality or do a job better. One clear example is that of bulky televisions versus flat screen televisions where the latter became popular due to the fact that they offered larger screens and weighed less. Attractive pricing can also cause popularity. Imagine a case in which a company cuts its prices in half. That would most likely increase sales at least when measured in terms of volume. Advertising is another reason for ideas and products becoming popular. People need to be aware of a product before they can move on to the purchasing phase. The aforementioned reasons can to some extent explain why viral phenomenon occur, but to get a better understanding one must study the science of social transmission (Berger, 2013).

The core reason for why viral phenomenon occur is the fact that people tend to share stories, news, information, and experiences with those in their social network. In addition to recommending, they also request for recommendations. This process of social transmission, also referred to as word-of-mouth, can occur offline and online. For instance, the former can happen through face-to-face conversations and text messaging, whereas the latter through web reviews and sharing in social media. Social transmission causes social influence, which has a huge impact on whether products, ideas, and behaviours become viral. It is more effective than traditional advertising because it is more persuasive and targeted. Persuasive due to higher trust and credibility that exists between peers. Targeted due to the fact that word-of-mouth is naturally directed toward an interested audience. In addition to peer-to-peer influence, individuals can be affected by a larger-scale of social influence known as the herding phenomenon. Herding is closely connected with crowd behaviour and group-think in which interactions between people, institutions and markets determine collective social behaviour. Furthermore, individuals have a tendency of desiring to link to others in a social network indicating that one's behaviour also depends on the number of other individuals already engaged in that certain behaviour. The herding phenomenon further fuels a viral phenomenon (Anand & Mathew, 2014; Berger, 2013; Nemanja, 2012; Zhou, 2014).

Activating peers so that they converse about one's product or content is essential for spreading through social networks like a virus (Berger, 2013; Nemanja, 2012). The

underlying question is: how can one activate people to discuss about their product or content? To decipher this, one must understand why some ideas, products, and behaviours are more contagious than others. The next sub-chapter addresses this point.

#### **4.2.2 Key drivers of virality**

For a product to achieve hyper-growth, it must by definition be adopted by customers. Perceived usefulness and perceived ease of use both have an impact on product adoption. The product must solve some problem or fill an identified need, which the customer must perceive. The higher the perceived usefulness the greater the likelihood of product adoption. Additionally, the product must be easy to use from the perspective of the customer. The less effort needed to learn and use the product, the more willing customers are to adopt the product (Fisher et al., 2014). Fisher et al. (2014) use the aforementioned concepts to form what they call *the pyramid of viral growth*. To have a solid foundation for achieving viral growth, one needs to prove that the product is generating enough value for the customers, and that they are using it as expected (Croll & Yoskovitz, 2013). Therefore, the nature of a product can, to some extent, drive viral growth. This notion is consistent with the idea proposed by Rogers (2003), who argues that out of the four main elements influencing spread, one is the innovation itself. To take advantage of this driver of virality, the concept of product-market fit can be useful. It describes an outcome in which a product shows strong demand by passionate users representing a sizeable market. Sean Ellis states that “*achieving product-market fit requires at least 40% of users saying they would be very disappointed without your product*”. This threshold was deducted through experience by comparing results across nearly 100 start-ups. The start-ups facing problems with traction were those that fell below the 40% threshold (Cooper & Vlaskovits, 2010).

Viral growth is driven by peer-to-peer offline and online sharing. Sharing happens for multiple of reasons, such as, social bonding and maintaining one’s self-identity (Fisher et al., 2014). This brings us to the next driver of virality, which is psychological factors: what are the core elements that make content more contagious? By content the author of this present research study can mean an array of things, such as, stories, news, information, products, ideas, messages and videos. Making content attractive and memorable can

facilitate virality. Content that evoke emotions are argued to play an important role in drawing attention and increasing attractiveness. Additionally, content that are practically useful can encourage sharing. Viral phenomenon have been associated, through research, with one or more of the attributes listed in the table below (Berger & Milkman, 2013; Boying et al., 2015; Nemanja, 2012; Zhou, 2014).

**Table 2. Psychological attributes that can increase the contagiousness of content thus increasing the probability of triggering a viral phenomenon**

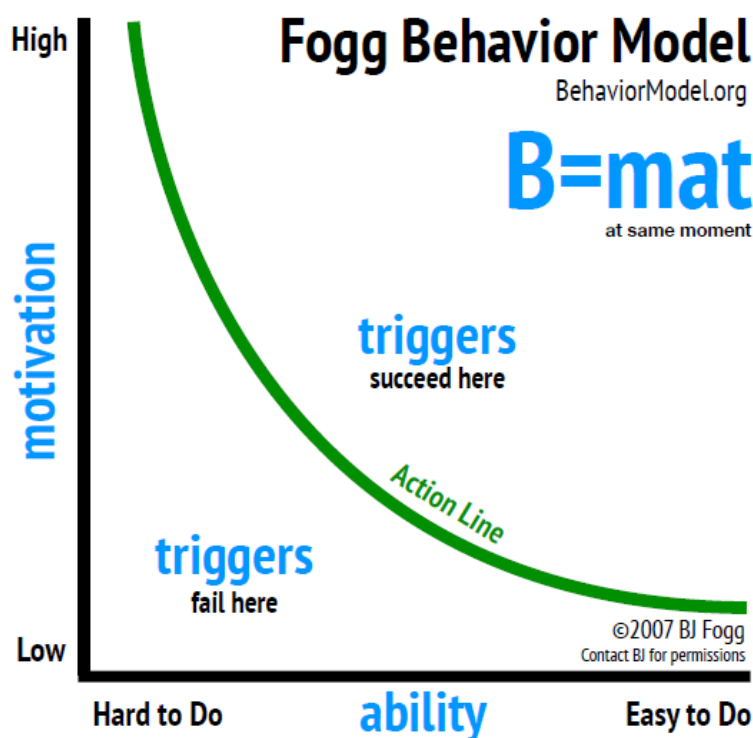
Attribute	Examples
Positive tone	Inspirational, transparent, and positive.
High arousal emotions	Awe, anxiety, anger, and amusement.
Entertaining	Humorous, originality, surprising, and interesting.
Interactive	Gamification, customization, and creating a challenge.
Practical value	Informative, and useful.

Berger's (2013) framework indicates that there are more dimensions at hand than just *emotions* and *practical value*:

- People prefer to be seen as smart, up-to-date, and prosperous. Therefore, content that increases one's *social currency* in a social network is more prompt to be shared. Facebook benefited from the principle of social currency. People at the time discussed more about it due to its remarkability (Berger, 2013).
- Products need to be designed around contemporary *triggers* that prevail in the audiences' environment. Colleen Chorak managed to increase the sales of Kit Kat chocolate bars by 8 percent in 2007 and by a third twelve months after. This was achieved by making coffee the trigger for Kit Kat (Berger, 2013).
- Making products more *public* and observable increases adoption. Spotify's integration with Facebook enabled automatic broadcasting notifications, which made the product more public. This in turn fuelled Spotify's spread and growth (Berger, 2013; Holiday, 2013).

- People cherish *stories*. However, the product has to be at the core of the narrative otherwise the virality that comes with it is of little value. For instance, Evian, a brand of mineral water, published a video named “Roller Babies” in which a group of animated babies perform tricks and dance to music on rollerblades attracted 50 million views, but brought no business value for the company due to the fact that the content had nothing to do with the core business of the company (Berger, 2013).

Another key driver of viral growth relates to the diffusion process of content. One can successfully create contagious content but still not manage to activate people to share it. To encourage an individual to act in a targeted behaviour, one must position the person above the behaviour activation threshold. Providing a trigger to act, which is above the threshold will have a successful outcome. This can be achieved either by increasing motivation or optimizing ability (also referred to as the elements of simplicity) (Fogg, 2009).



**Figure 12.** Fogg’s behaviour model depicts that one must place users above the action line in order to trigger the desired behaviour successfully

*Source:* BJ Fogg’s behaviour model ([www.behaviormodel.org](http://www.behaviormodel.org)). Used with permission. Date accessed: 2<sup>nd</sup> September 2016.

People are generally resistant to teaching and training because it requires effort, and they are fundamentally indolent (Fogg, 2009). Designing viral product features that are optimized around the elements of simplicity is crucial for driving viral growth. This proposition is supported by the literature on viral marketing. One of the basic elements of effective viral marketing is said to be to provide easy methods for conveying information (Zhang, 2011). One must assume that users will not invest additional effort to spread the message, even if the social object quality and the content is extraordinary. The viral mechanics that facilitate sharing must provide effortless transfer and replication to others (Nemanja, 2012; Wilson, 2000). Therefore, in order to increase the probability of viral growth, one must facilitate sharing by designing viral product features that are simple. Simplicity can differ between individuals, for instance, a 9-year-old versus a 55-year-old. Fogg's (2009) elements of simplicity, summarized in the table below, shed more light on what to consider.

**Table 3. Elements of simplicity that should be considered when designing features intended for driving virality (Fogg, 2009)**

<b>Element of simplicity</b>	<b>Description</b>
Time	If a target behaviour requires time and we do not have time available, then the behaviour is not simple.
Money	For people with limited financial resources, a target behaviour that costs money is not simple.
Physical effort	Behaviours that require physical effort may not be simple.
Brain cycles	If a performing a target behaviour requires us to think hard, that might not be simple.
Social deviance	If a target behaviour requires one to be socially deviant, such as, going against the norm, breaking the rules of society, then the behaviour is no longer simple.
Non-routine	People tend to find behaviour simple if they are routine, activities they do over and over again.

The viral growth drivers discussed in this chapter are not exclusive. There may be other factors that affect virality. However, the author of this present research study puts emphasis on dominant concepts that emerged from the literature review. Additionally, the

aforementioned drivers of viral growth are discussed, because they are all factors, which one can have an influence on.

#### 4.2.3 A mathematical model of viral growth

The process of viral growth can be expressed through a basic mathematical model. Two key components that drive viral growth are the viral coefficient (K) and the viral cycle time (cyct). The mathematical model, represented below, was derived primarily by Stan Reiss and partially by David Skok (Glover, 2012).

$$u(t) = u_0 * \frac{K^{(\frac{t}{cyct}+1)} - 1}{K - 1}$$

The variables in the equation are:

- $u(t)$  = *total number of users*
- $u_0$  = *initial number of users at time zero*
- $K$  = *viral coefficient*
- $t$  = *time<sup>k</sup>*
- $cyct$  = *viral cycle time*

The viral coefficient and viral cycle time have a tremendous impact on the growth rate of a product. Looking at the equation, it is obvious that one should increase the viral coefficient and decrease the viral cycle time. The viral coefficient represents the actual number of members each existing user is able to convert (Glover, 2012; Weinberg & Mares, 2014). Conversion is a result of multiple stages but is initiated by awareness, which in case of viral growth happens through peer-to-peer sharing. Therefore, the viral coefficient can be presented in the following manner:

$$K = i * conv\%$$

The variables in this equation are:

- $i$  = *number of invites sent per user*
- $conv\%$  = *percentage of invites that convert into users*

Conversion rate is affected by multiple factors, such as the perceived value, learning effort (ease of use), service quality, and perceived entertainment. The amount of invitations (also referred to as *fan-out*) is influenced by a wide variety of factors including the ease of sharing recommendations and linking existing users with potential new users through a process called as “*social cascade*” (Fisher et al., 2014). The term invitation should not be taken literally in this context because there are multiple ways an existing user can disseminate information about the product to their peers, such as automated broadcasts, word-of-mouth and personalized referrals. However, one must consider which invitations to take into account when making estimations of viral growth. This is due to the fact that certain forms of invitations are clearly harder to measure, such as offline word-of-mouth.

Depending on the viral coefficient’s value, the growth rate will be either at a decreasing rate or at an exponential rate. Exponential growth is reached when the viral coefficient is greater than one (Glover, 2012; Salminen & Hytönen, 2012; Weinberg & Mares, 2014). In cases where the viral coefficient is smaller than one, the total amount of users that can be acquired virally can be estimated with the following equation:

$$u(t) = \frac{u_0}{1 - K}$$

For instance, with an initial base of 10,000 users and a viral coefficient of 0.2 one can at most acquire 2,500 additional users virally. Discussions with other entrepreneurs, investors, and growth hackers imply that for a consumer internet product, a sustainable viral coefficient of 0.15 to 0.25 is good, 0.4 is great, and around 0.7 is astounding (Vohra, 2012). Therefore, it might be even more challenging to maintain a viral coefficient that is above one in the business-to-business landscape.

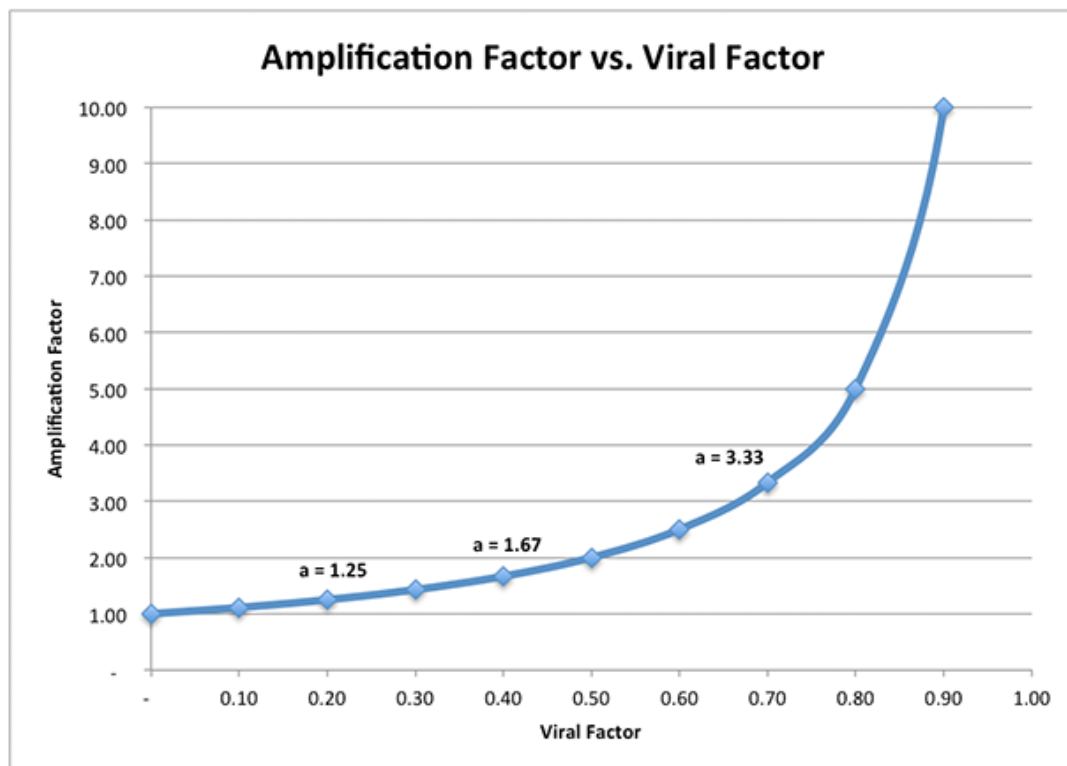
Due to the fact that sustainable viral growth is rare Vohra (2012) puts more emphasis on the amplification factor than the viral coefficient when looking at virality. To calculate the total number of users, one must multiply the number of users acquired through non-viral channels with the amplification factor. The amplification factor ( $a$ ) is as follows:

$$a = \frac{1}{1 - K}$$

For instance, if a company has acquired 50,000 users through paid acquisition channels and has an amplification factor of 1.25 (equal to a viral coefficient of 0.2) they will end up with



62,500 users. Hence, the company has managed to acquire 12,500 additional users through virality. It is, therefore, crucial for companies to establish strong sustainable non-viral channels when their viral coefficient is below one. Furthermore, small increases in the viral coefficient can dramatically improve the amplification factor as presented in Figure 13 (Vohra, 2012). So how does one increase their viral coefficient? By increasing the amount of invites per existing user and increasing the conversion rate of those invites.



**Figure 13.** Any level of virality can increase the total number of users which can be calculated by multiplying the number of users acquired through non-viral channels with the amplification factor

*Source:* How to Model Viral Growth: The Hybrid Model (Vohra, 2012).

The second factor that should be optimized is the viral cycle time, which is a measure of how long it takes a user to go through a product's viral loop. Two viral loops with the same viral coefficient but different viral cycle times will have completely different results. A viral loop in its most basic form is a three-step process in which a user is exposed to a product, then the user tells a set of potential users about the product, and the potential users adopt the product by being exposed to the product. This process begins again with the new users. Viral cycle time explains the explosive growth of a company like YouTube, whose cycle times can occur in a matter of minutes; when YouTube launched in 2005, users were provided

with a link that they could copy and share via email at the end of every video. Therefore, it is crucial for a company that is aiming to achieve viral growth to decrease their viral cycle time. This can be done by measuring every step in a product's funnel and optimizing it so that the users go through the viral cycles faster. For instance, a viral cycle could be: a user registers, uses the product, evaluates the product, shares it with peers if likes it, peers receive the invitation, and they adopt the product (Glover, 2012; Weinberg & Mares, 2014). The table below depicts how significant viral cycle time can be in user base growth.

**Table 4. Decreasing the viral cycle time can increase the total number of users dramatically**

$u(0) = 1000$		$i = 20$	$conv\% = 8$	$K = 1.6$	
Time passed (t) in weeks		0	4	8	12
Viral cycle times (cyct) in weeks	1	1 000	15 810	112 866	748 933
	2	1 000	5 160	15 810	43 073
	5	1 000	2 217	3 990	6 572
	10	1 000	1 552	2 217	3 021
<b>u(t) = total number of users</b>					

The viral growth model presented in this chapter can provide valuable insight on the potential virality of one's product. However, it is a limited model in the sense that it does not take into account several real world phenomena. Few of the limitations are:

- Effects of reaching network saturation are not considered.
- Attrition rate (churn rate) is not taken into account.
- Lack of time value in the viral coefficient.
- Overlapping invitations are not taken into consideration.
- Every user has the same cycle time and the cycles happen in unison.
- A user sends invites only once.

A more realistic model of viral growth could be one, which is equipped with a better definition of the viral coefficient and takes into account churn, finite market size, and

continuous sharing (Coffman, 2013a; Salminen & Hytönen, 2012). Coffman (2013b) suggests a more realistic model of viral growth, which is based on the SIR (susceptible, infected and removed) model dating back to 1927. Kermack and McKendrick's SIR model describes the transmission of communicable disease through individuals and considers that a fixed population consists of three compartments: susceptible, infected and removed individuals. The susceptible category represents the number of individuals that are not yet infected with the disease. The category of infected denotes the number of individuals that have been infected with the disease and are capable of spreading the disease to those in the susceptible category. Lastly, the removed category is used for individuals that have been infected and then removed from the disease. These individuals are not able to get infected again nor transmit infections to others (Keeling & Rohani, 2007).

In the improved model, Coffman (2013b) applied the classic SIR model to viral marketing by drawing analogies between a disease and a product. The applied model is solely based on Coffman's blog posts (Coffman, 2013b, 2013c).

The total population of the market is divided into three subpopulations:

- $S$  = potential users (turn into users as a result of successful invitations)
- $I$  = current users (become former users if decide to stop using the product)
- $R$  = former users (have stopped using the product)

The three subpopulations change in number over time, but for simplicity the total market size is treated as static and former users as immune. Therefore, the total population is:

- $N = S + I + R$

Parameters that govern the spread of disease are:

- $\beta$  = The infection rate (sharing rate)
- $\gamma$  = The recovery rate (churn rate)

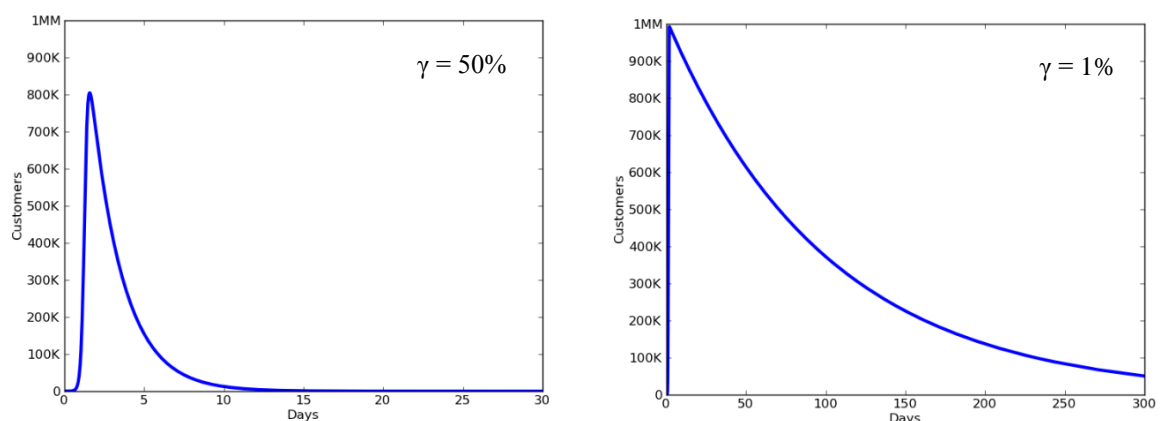
The number of new users, per unit time, due to word-of-mouth or online sharing is " $\beta SI$ ". As the number of new users grows, the number of potential users shrinks by the same number. This plays the same role as the viral coefficient presented in the basic viral growth model, but accounts for the fact that conversion rates on sharing slow down when the fraction of people who have already tried the product gets large. It also leaves out the concept of viral

cycle time. Instead, it accounts for the average time it takes to share something and the average frequency at which people share by putting a unit of time into the denominator of the infection rate ( $\beta$ ). Hence, the infection rate represents the number of successful invitations per current user per potential user per unit time. This model takes into account the following aspects:

- Users do not share in synchronous batches.
- Instead of assuming that users have the same cycle time, the infection rate represents an average rate of sharing.
- Users might invite others when first trying a product or after they've used it for quite a while.

In this model, the current users become former users at a rate defined by the recovery rate ( $\gamma$ ). It has the dimensions of inverse time ( $1/t$ ), and  $(1/\gamma)$  represents the average time a user remains a user. Coffman's (2013b) model outlines the importance of market size and churn, which can be seen from a few example calculations using the following parameters:

- $N = 1$  million people in the market
- $\beta N = 10$  invites per current user per day
- $\gamma = 50\%$  and  $1\%$  of users lost per day
- $I(0) = 10$  current users



**Figure 14. The customer base diminishes after reaching its peak due to churn**

*Source:* A Better Mathematical Model of Viral Marketing (Coffman, 2013b).

The left side graph from Figure 14 shows a pattern similar to that of a popular Twitter link where traffic quickly spikes and then dies down as people tire of looking at it (customer in

this case can be considered as a visitor). The right side graph from Figure 14 shows that even with low values of churn, without new potential users joining the market, or former users returning, the user base always diminishes after reaching its peak. Another interesting finding here was that a higher peak can be reached with a smaller churn rate.

Coffman's (2013b) model suggests that viral growth in a static market is unsustainable unless the churn rate is absolutely zero. Therefore, to sustain viral growth, one needs to consider how the change in the market size affects viral marketing (Coffman, 2013b). In another blog post Coffman (2013c) takes into account the change in market size and concludes that a large and growing market is one of the most important factors in growing a user base for the long term. Keeping current users also has a strong impact on long term viral growth. However, the impacts of a large viral sharing rate are only seen in the short term.

### **4.3 Viral growth tactics**

Tregoe and Zimmerman define strategy as *"the framework which guides those choices that determine the nature and direction of an organization"* and urge executives to base decisions on a single driving force of the business. They define nine possible driving forces out of which one is growth (Nickols, 2016). When it comes to formulating and implementing viral tactics, a company must strategically have growth as a driving force to guide their actions. Otherwise, they are performing against what they strategically intend to achieve.

While strategy is simply the answer to the question *"What for?"*, tactic is the answer to the question *"How to?"* (Barnard, 2011). Tactics refer to the residual choices open to a firm by virtue of the business model that it employs. They play a crucial role in determining how much value is created and captured (Casadesus-Masanell & Ricart, 2009). In this paper, the author acknowledges the relation between strategy and tactic and their descriptions as described in Dr. Goldratt's proposed model "Strategy and Tactic Tree". Every strategy should have an associated tactic and therefore strategy and tactic must exist in pairs and at every level of the organization (Barnard, 2011).



**Figure 15. Strategy and tactic exist in pairs and at every level of the organization**

*Source:* Introduction to TOC's Strategy & Tactic: Tree Thinking Process (Barnard, 2011).

In the context of this present research study, the strategy and tactic tree implies that viral growth is a form of strategy, which goes under growth strategy in general. Furthermore, the tactics that are formulated and deployed are determined by the viral growth strategy. These tactics are referred to as viral growth tactics.

#### **4.3.1 Types of virality and viral growth tactics**

Virality is driven by peer-to-peer promotion, which can occur through interactions in the physical world (hereafter offline) or the digital realm (hereafter online) (Berger, 2013; Rakić & Rakić, 2014). For instance, face-to-face communications and telephone conversations are offline interactions, whereas e-mail and social media conversations are considered as online interactions. According to Croll & Yoskovitz (2013) there are three types of virality: inherent virality, artificial virality, and word-of-mouth virality. The three types of virality should be treated as distinct forms of growth and analysed separately. For instance, artificial virality might bring in more drive-by traffic, whereas inherent virality would bring in more engaged customers.

Inherent virality is said to be the best kind of virality as it is built into the product, and happens as a function of use. It feels genuine, and is like an epidemic. It is not something you opt into doing or experiencing, it just happens. Expensify is an enterprise application,

which is inherently viral. The user forwards expense reports to others for approval, which works as a natural peer-to-peer sharing mechanism (Croll & Yoskovitz, 2013). Niantic's Pokémon Go is an inherently viral consumer application. It is a social game, thus people derive value from it when other people play the game as well. Additionally, the more people play it, the more Pokémon a user can find (Sofian, 2016). Other examples of inherently viral products are Skype, WhatsApp, PayPal, Facebook, TripIt, and FreshBooks. More generic inherently viral examples are email, social networks, photo and video sharing sites and applications, peer-to-peer networks, and mobile phones.

Artificial virality, in comparison to inherent virality, is forced and often built into a reward system. It is a form of intentional viral marketing in which the existing users willingly become promoters of the product driven by an explicit incentive. The incentive is not necessarily financial compensation. This form of virality can be a double-edged sword. Proper application can be rewarding, whereas poor application of this form of virality can turn out detrimental, for instance, from the user experience and branding perspective. Parts of Dropbox are inherently viral, such as, sharing files with colleagues and friends. However, their rapid growth was mainly driven by artificial virality. Users tried to convince their peers to sign up so they would be rewarded with additional free online storage. Tweeting about the product was compensated with extra storage. Liking the product was rewarded with extra storage. PayPal benefited from artificial virality as well. They acquired more than three million users in its first nine months of operation by providing financial incentive to members that recommended the service to others. (Croll & Yoskovitz, 2013; De Bruyn & Lilien, 2008).

This brings us to Croll & Yoskovitz's (2013) last type of virality, which is word-of-mouth. Word-of-mouth is an old concept in viral marketing, which refers to a form of interpersonal communication among consumers concerning their personal experiences with a firm or a product. It is stated to be the highest ranked technique used by consumers to gather information and make purchase decisions. In fact, it is the primary factor behind 20 to 50 percent of all purchasing decisions. This form of virality is extremely effective but harder to track and measure. It can occur through endorsements by a trusted advisor in blogs and social platforms or through face-to-face conversations. Lately online word-of-mouth has received much attention and embrace as a result of the social media boom. It is also overestimated due to the fact that it is easier to track and measure in comparison to offline word-of-mouth.

As a result, the importance of offline word-of-mouth is often ignored even though research shows that only 7 percent of word-of-mouth happens online (Berger, 2013; Bughin, Doogan, & Vetvik, 2010; Croll & Yoskovitz, 2013; Nemanja, 2012). Facebook's early growth was driven by word-of-mouth, before they started building in more explicit viral features. Many movies, books, diets and television shows take off due to word-of-mouth (Weinberg & Mares, 2014).

**Table 5. According to Croll & Yoskovitz there are three types of virality (Croll & Yoskovitz, 2013)**

<b>Type</b>	<b>Description</b>
Inherent	Built into the product and happens as a function of use.
Artificial	Forced, and often built into a reward system.
Word-of-mouth	Conversations generated by satisfied users, independent of the product or service.

The aforementioned virality types provide a general angle on categorizing viral growth tactics. However, harnessing them effectively requires identifying additional elements of classification. Weinberg & Mares (2014) and Steffen (2015a) provide more specific categories for this purpose. Weinberg & Mares (2014) discuss about the main kinds of viral loops, which are pure word-of-mouth, inherent, collaboration, communications, incentive, embed, and social networks. This list is further supplemented by Steffen's (2015a) categories of viral marketing, which include viral signature, open viral, viral transaction (corresponds to social networks), viral credibility, and viral satisfaction. Each of these are described briefly, analysed from the perspective of Croll & Yoskovitz (2013), and eventually summarized into a table.

Pure word-of-mouth occurs when a product is remarkable enough to initiate natural sharing, which can be online or offline, and immediate or ongoing. Immediate word-of-mouth is when one shares information or an experience soon after it has occurred. Movies are highly dependent on this form of word-of-mouth. In contrast, ongoing word-of-mouth covers conversations in weeks and months. The quality of the content and the value that it generates from the users perspective is crucial for word-of-mouth virality. For instance, BuzzFeed relies heavily on their content, which aim to create high-arousal emotions that drive online



word-of-mouth (Berger, 2013; Steffen, 2015a; Weinberg & Mares, 2014). This category does not differ from the one presented by Croll & Yoskovitz (2013).

Inherent virality occurs when one gets value from a product only by inviting other users. Creating inherent virality into an existing product is improbable. For instance, applications like Skype, WhatsApp, and Snapchat are completely worthless if others do not adopt it also. It is the “nature” of the product. Inherently viral products benefit from network effects, meaning that the more people adopt it the more valuable it becomes. Due to the fact that users do not get any value unless others have adopted it as well, acquiring initial customers is often challenging (Steffen, 2015a; Weinberg & Mares, 2014). This definition of inherent virality adds on to the one presented by Croll & Yoskovitz (2013).

Collaboration virality encourages growth by providing additional value to users when they acquire more members. The product can be valuable on its own but becomes more so as others are invited. For instance, Google Docs is useful alone, but it is far more valuable when used collaboratively. Basecamp is a simple project management platform that allows users to get organized. It can be used alone to organize projects or used collaboratively with other members, which amplifies the value of the product. This type of virality can take longer to spread if the users do not experience an immediate need for collaboration (Steffen, 2015a; Weinberg & Mares, 2014). Collaborative features are part of the product, which enable promotion as a function of use. Therefore, this form of virality can be classified as inherent (Croll & Yoskovitz, 2013).

Virality can be embedded also into communications from the product. Therefore, the product spreads via user-generated communication. For instance, Hotmail put a “Get a free email account with Hotmail. Sign up now.” as a default signature and Apple similarly used “sent from my iPhone.” As a result, every message sent spreads information about the product. There are multiple other software products that use this form of virality, such as MailChimp, Weebly, UserVoice, Hootsuite, and Desk all add branding by default (Steffen, 2015a; Weinberg & Mares, 2014). Communications virality can be classified as inherent virality because it is built into the product and happens as a function of use (Croll & Yoskovitz, 2013).

Incentive virality is quite straightforward. The user is incentivized to spread the product in their networks. Its successful implementation mostly depends on how valuable the actual

product is, how valuable the additional incentives are, and how relevant the incentives are in relation to the initial value. Additionally, it is crucial to overcome the inviters' guilt, which can come from exploiting others to receive an incentive. PayPal tackled the inviters' guilt by providing financial incentives to both sides (the sharer and the receiver). Dropbox provided relevant incentives by giving additional space to those that got their peers to sign up (Steffen, 2015a; Weinberg & Mares, 2014). This form of virality falls into the category of artificial virality (Croll & Yoskovitz, 2013).

Embeddable virality is based on the ability to take a third party tool, application or widget, and pasting the code into one's webpage as if it were a native part of that website. Therefore, the third party tool looks native and adds value to users while demoing the tool. One of the reasons YouTube went viral was due to their embedding feature, which allowed users to embed any video to their own website. Facebook and Twitter buttons are other examples of embedding (Steffen, 2015a; Weinberg & Mares, 2014). Croll & Yoskovitz (2013) would probably classify this as inherent virality. To get value out of the third party tool one must embed it, such as Facebook's share button. Therefore, the add-on becomes part of the product, which also works as a mean for promoting the third party tool.

Transaction virality leverages social networks to attract new users to a product. In this case, a user's activities are broadcast to their social connections; often more than once. Spotify used this form of virality to broadcast on Facebook what their users were listening to. In addition to auto-posts, the users can be requested to share content in a more manual process. This is the case with Kickstarter and MapMyRun. They ask you to share after completing a certain action, such as backing a venture in the former and completing a run in the latter (Steffen, 2015a; Weinberg & Mares, 2014). This form of virality can fall under inherent and artificial virality. The automated broadcasts can be considered as part of the product, which take place as a function of use. This would make it inherently viral. However, in the case of manual sharing it is an additional action that the user must take driven by psychological incentives. This, in turn, would be considered as artificial virality (Croll & Yoskovitz, 2013).

Signature virality is similar to embeddable virality: users utilize a self-promoting tool that provides value to them. However, the difference is that in the case of signature virality the tool works as an actual part of the user's site not as a mere add-on. The critical component in viral signature is that the tool is branded so that prospective users can link to it. For instance, the brand can be in the uniform resource locator (URL) or included as a signature

in the form of “*Powered by*”. Recurring billing platforms such as Chargify and Recurly use viral signature via their hosted checkout screens (Steffen, 2015a). In this form of virality, the viral signature is a part of the product, which is promoted as a function of use. Therefore, it would most likely be classified as inherent virality (Croll & Yoskovitz, 2013).

Open virality involves opening up one’s platform, website, or service (hereafter referred to as platform) to content creators. It consists of three core psychological stages, which are exposure, adoption and promoter value. These stages are followed by promotion. Successful open viral marketing requires creating a promotional avenue that generates perceived value for one to promote their product on the platform. Apple is a great example of open viral marketing. Developers pay an annual fee to have an account for creating applications for the Mac, iPhone and iPad. The promoter’s value comes from the potential financial gains a developer can generate by creating applications for Apple’s App Store. As the developers promote their products they simultaneously promote Apple’s App Store. YouTube is another example of open virality. Content creators often have a direct or indirect financial interest in promoting their own video content, thereby spreading YouTube in the process (Steffen, 2015a). This form of virality can be classified as artificial because the user has a direct or indirect incentive for promoting their content, which in turn promotes the platform (Croll & Yoskovitz, 2013).

Viral credibility ultimately relies on the quality of the product and the value it delivers. The brand of the product is highly appreciated and creates a status symbol of credibility in their respective areas. For instance, RED cameras are associated with professional cinematographers. Rolls Royce is associated with wealthy individuals. Gibson instruments are associated with proficient musicians. Therefore, a brand’s credibility drives word-of-mouth among peers. However, not every word-of-mouth is viral credibility, which is why a distinction between the two is necessary (Steffen, 2015a). This form of virality can be considered as a sub-class of word-of-mouth (Croll & Yoskovitz, 2013).

Satisfaction virality comes from the prominent experience a user has through an interaction with the members of a company’s team or support department. Customers pass on great experiences, which in turn can fuel virality. Zappos is a company that leveraged satisfaction virality. Their unrivalled customer support’s primary goal was to delight customers that called in with issues, which in turn made them famous. It is clear that customers can get a feeling of satisfaction from multiple sources – product and support interactions to name a

few. However, the mechanics that drive the feeling of satisfaction can be relatively different. Additionally, separating satisfaction virality from word-of-mouth virality is necessary because only certain companies can leverage online and offline word-of-mouth, but every company can leverage satisfaction virality (Steffen, 2015a). This form of virality can be considered as a sub-set of word-of-mouth virality (Croll & Yoskovitz, 2013).

**Table 6. A comprehensive list of the types of virality comprised from two sources that discussed about similar points (Steffen, 2015a; Weinberg & Mares, 2014)**

Type	Description
Pure word-of-mouth	Remarkable products and content initiate natural sharing that can happen online or offline, and are either immediate or ongoing. Facebook, BuzzFeed, Apple, and many more have leveraged on this form of virality.
Inherent	The users get no value out of the product unless others adopt it as well. The value of the product increase the more people adopt it. Skype, WhatsApp, and Snapchat are examples of inherently viral products.
Collaboration	A user can get solid benefit from using the product alone, but unlocks additional value by inviting others to use it as well. Google Docs, Dropbox, and Basecamp are examples of collaboration viral products.
Communications	Embedded into communications from the product, so that the product spreads via user-generated communication. Hotmail, MailChimp, and Hootsuite have used communications virality to grow.
Incentive	Users can be given a nudge by incentivizing them to spread the product among their peers. Incentivized virality works best when it is two-sided and relevant to the core value of the product. AirBnB, Uber, and Gilt used financial incentives as a way to drive growth.
Embeddable	Embedding tools and/or content that adds value to users while serving as a demo of one's tool. The embeddable feature should also include a link that allows additional users to add the tool and/or content. YouTube is a popular example of leveraging embeddable virality to grow.
Transaction	Users' actions on a site or application are broadcasted to peers across their social graph. This can happen either manually or automatically. Spotify posted on Facebook, by permission, what their users were listening to as they were listening to the song.

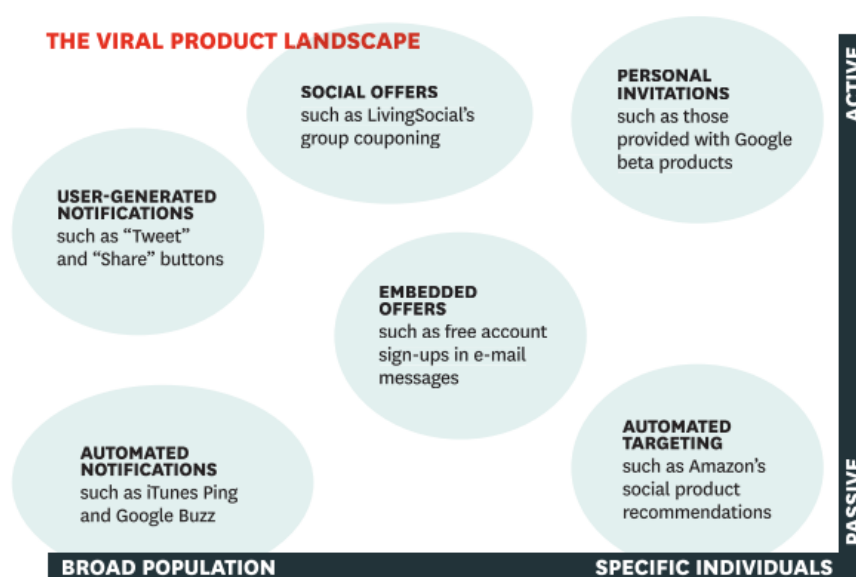
Signature	Signature virality is similar to embeddable virality: users utilize a self-promoting tool that provides value to them. However, the difference is that in the case of signature virality the tool works as an actual part of the user's site not as a mere add-on. For instance, Shopify and Twid use viral signature by placing a " <i>Powered by</i> " tag on fully-hosted websites.
Open	Platforms, websites, or services (hereafter referred to as platforms) that are opened to content creators leverage open virality. This type of virality requires creating a promotional avenue for the content creators so they perceive value in promoting the platform. Apple's App Store and YouTube leverage open virality by encouraging content creators to promote their content, thereby promoting the platform in the process as well.
Credibility	Viral credibility ultimately relies on the quality of the product and the value it delivers. The brand of the product is highly appreciated and creates a status symbol of credibility in their respective areas, which in turn generates word-of-mouth. RED cameras, Rolls Royce cars, and Gibson instruments are examples of viral credibility.
Satisfaction	Satisfaction virality comes from the prominent experience a user has through an interaction with the members of a company's team or support department. Customers pass on great experiences, which in turn can fuel virality. Zappos and Basecamp both leveraged satisfaction virality successfully.

Other interesting elements that may be useful for categorizing viral growth tactics were:

- The viral product landscape
- Viral product or viral influence attributes
- Low or high integration viral marketing tactics
- Intentional or unintentional message dissemination

The viral product landscape suggests six types of viral products: user-generated notifications, automated notifications, personal invitations, automated targeting, social offers, and embedded offers. These types of viral products are defined by viral product features (active and passive) and targeted users (broad population and specific individuals). Active features require a certain activity from the user to disseminate a message, such as personalized referrals that was used by Dropbox and PayPal. Passive features disseminate messages without requiring any additional effort from the user, such as Hotmail's automated

messages and Spotify's automated broadcasts. User-generated notifications, such as "Tweet and "Share" buttons are active viral features targeted at a broad population. Automated notifications, such as "iTunes Ping" and "Google Buzz" are passive viral features targeted at a broad population. Personal invitations, such as those provided with Google beta products are active viral features targeted at specific individuals. Automated targeting, such as Amazon's social product recommendations are passive viral features targeted at specific individuals. Social and embedded offers fall between the aforementioned viral products (Aral & Walker, 2011b; Rakić & Rakić, 2014). These viral growth tactics can fall under inherent or artificial virality as they are product oriented (Croll & Yoskovitz, 2013).



**Figure 16.** The viral product landscape suggests six types of viral products which are defined by the level of interaction required from the users and the size of the targeted population

*Source:* Vision Statement: Forget Viral Marketing – Make the Product Itself Viral (Aral & Walker, 2011b).

Viral product attributes (or viral characteristics) are fundamentally about a product's content and the psychological effects the content can have on a user's desire to share the products with peers. A product attribute that leads to unexpected delight and satisfaction is more likely to be shared. Viral influence attributes (or viral features) correspond to viral mechanisms associated to the product, which have an impact on how a product is shared. They may enable communication, generate automated notifications of users' activities, facilitate personalized invitations, or enable hypertext embedding of the product on publicly available websites and weblogs. The most widely used viral influence attributes are personalized referrals and

automated broadcast notifications (Aral & Walker, 2013; Barbieri & Bonchi, 2014; Zhou, 2014). The aforementioned categories basically cover the whole range of virality types: inherent, artificial, and word-of-mouth (Croll & Yoskovitz, 2013).

A customer's activity in passing on information varies with different viral marketing activities. Low integration viral marketing tactics require minimal involvement of the customer in the marketing process. For instance, Hotmail's tactic where they used automated marketing messages below every email sent by users is a low integration tactic. This is also referred to as frictionless viral marketing. At best, information of the product is spread simply by using the product. In high integration viral marketing tactics, the customer is directly involved with targeting new users. It demands proactive participation of the customer in acquiring new users. Amazon's affiliate program, which rewarded associates for directing traffic to Amazon's website is a high integration tactic. In the case of Winamp, members were required to use the program in order to trade digitized songs, which pushed the users to actively seek out new members. This tactic is also referred to as active viral marketing (Helm, 2000; Skrob, 2005). Considering Croll & Yoskovitz's (2013) virality types, one can deduct that inherent, artificial, and word-of-mouth virality can be low or high integration depending on the tactic that is deployed.

Passing on messages can be intentional or unintentional. In case of unintentional message dissemination, the users are not deliberate actors. For instance, Hotmail's well-known and previously mentioned tactic is a form of unintentional message dissemination. On the other hand, intentional message dissemination happens when users willingly become promoters of a product by spreading information in their networks. PayPal took advantage of intentional message dissemination by offering financial incentives to those who referred the service to their peers (De Bruyn & Lilien, 2008; Rakić & Rakić, 2014). The aforementioned elements can be easily associated with the product itself, therefore one can suggest that intentional and unintentional message dissemination can be associated with inherent and artificial virality. Word-of-mouth on the other hand is clearly a case of intentional message dissemination but can have examples of unintentional as well. For instance, in case of credibility virality, it can be enough to see the product and get activated towards adoption.

The categories of virality and viral growth tactics that were discussed in this chapter can form a hierarchy consisting of more generic categories that break down to sub-categories, which eventually lead to specific tactics. Applicability of a virality type depends on multiple

factors, but eventually the foundation of all types of virality boils down to the perceived value of the product from the users' perspective.

## **5 Building a framework for engineering viral growth**

### **5.1 Business-to-business virality**

The interviewees were asked to compare business-to-business (B2B) and business-to-consumer (B2C) companies between each other in the context of viral growth tactics and viral growth in general. Generally speaking the interviewees identified a few similarities and multiple differences between the two.

- Similarities
  - Type of viral growth tactics used
  - Key factors that affect virality
- Differences
  - Emotion based sharing
  - Interactions between people
  - Viral reach
  - Public sharing
  - Challenge in achieving viral growth

There seemed to be a general consensus between the interviewees on the types of viral growth tactics that apply in B2B and B2C companies. Virality in B2B and B2C “*does not differ really, instead the difference comes in how people interact with each other*”. Virality is driven by people and therefore similar tactics and approaches apply in both cases. Viral growth tactics depend on the use case, dynamics of the product and the value it delivers. Additionally, the way viral growth tactics are applied may vary between different applications. An example of a B2B and a B2C company that used similar viral growth tactics is that of Basecamp and OMGPpop. Both companies utilised viral collaboration tactics to drive growth. In Basecamp's project management tool the value of the platform was amplified as users invited others to collaborate on a project together. OMGPpop's DrawSomething sketch game augmented the user's experience by enabling them to invite their friends to solve puzzles together and earn points (Steffen, 2015a). One of the



interviewees stated that B2B companies should be divided into two separate groups: business-to-small-businesses (B2SB) and business-to-businesses (B2B). B2SB companies function in similar ways as B2C companies and can have a large enough population to go viral. Typically *“90% of B2B SaaS companies are B2SB companies”*. Therefore, similar viral growth tactics can be applicable. On the other hand, B2Bs were considered as large enterprises that followed traditional marketing methods as it was more efficient in their case. This is due to, but not limited to, the fact that large B2B enterprises sell expertise and products, which do not necessarily have a large enough population to go viral.

The key factors that affect virality were recognized to be the same in both B2B and B2C companies. Although this point was not explicitly mentioned by all the interviewees, discussions held about the key factors of virality confirm this point. Some of the identified key factors include the quality of the product, the value it delivers, the additional value a user gets from sharing the product and simplicity of the viral feature. These factors are prevalent in both B2B and B2C companies but might differ in practice. For instance, the actual additional value a business client gets in comparison to a consumer client can differ but they both fall under the same factor, which is to provide additional value to those that share.

Moving on to the differences, one of the interviewees stated that *“B2B SaaS products can be seen more as a utility and therefore they do not create the sharing effect experienced in B2C where you have products that have the ‘wow’ factor and are amazing”*. This suggests that emotion based sharing effect cannot be triggered in B2B products. Interactions between people may differ in B2B and B2C landscapes. Generally speaking, people are more willing to share things with their friends, family and strangers regardless of how it may impact their image as a person i.e. their social capital. In case of professional and business networks and settings, people are more reluctant on sharing things with their peers due to the point that they do not want to seem uninformed. Sharing something dispensable can end up harming their image and decrease their social capital. Hence, in B2B cases it is more crucial to build a trust relationship before asking the person to share with their peers (Murphy, 2014).

B2B companies have a limited viral reach in comparison to B2C companies. This is due to, but not limited to, the *“market size of business products which is a sub-set of the consumer market and therefore a B2B company targets a smaller market, which is why its virality will drag in comparison to a B2C company”*. This of course is not always the case, for instance,

considering situations where a B2C company is targeting a small niche market. Viral reach of a B2B company is further downsized by the limitations posed by the nature of information that prevails in companies; B2B companies are not able to implement public sharing tactics in similar ways as B2C companies can due to sensitive information. Since public sharing is limited, B2B companies have to encourage external sharing through other tactics such as viral collaboration. Additionally, achieving viral growth in B2B companies is considered to be more challenging because of the multiple layers of decision making and the limited time a buyer has that makes it more demanding to seize their attention.

Overall, viral growth tactics are transferrable from B2C to B2B but need to be evaluated based on the use case. However, one must consider that the viral reach of a B2B company is not necessarily as extensive as in the case of B2C companies.

## 5.2 Factors affecting virality

Factors that seem to affect virality are related to the product itself and its attributes, viral growth tactics and their design, the targeted population, psychological aspects and business processes. The author deemed it more insightful to inspect the identified factors by categorizing them albeit some of the factors might fall under several categories or be a combination of more than one category. The table below summarizes factors that affect virality.

**Table 7. Factors affecting virality that were mentioned by the interviewees**

Category	Factors
The product and its attributes	<ul style="list-style-type: none"> <li>• The product and its quality</li> <li>• Value that the users get from sharing</li> <li>• Viral cycle time</li> </ul>
Viral growth tactics and their design	<ul style="list-style-type: none"> <li>• Choice of viral growth tactics and implementing multiple tactics</li> <li>• Simplicity of the viral tactic</li> <li>• Tactics that encourage intercompany virality</li> <li>• Actively prompting users to share</li> </ul>

The targeted population	<ul style="list-style-type: none"> <li>• The types of population, for instance, influencers</li> <li>• The size of the population, for instance, mass vs. niche</li> </ul>
Psychological aspects	<ul style="list-style-type: none"> <li>• Social belonging</li> <li>• Status from the users perspective</li> <li>• The disseminated message</li> <li>• Emotional factors</li> </ul>
Business processes	<ul style="list-style-type: none"> <li>• Putting emphasis on customer support</li> <li>• Lowering friction at different levels of the sales funnel</li> </ul>

### 5.2.1 The product and its attributes

The product and its quality is in the core of virality. Fundamentally, the interviewees referred to product/market fit when discussing about the product and its quality and stated that *“reaching product/market fit facilitates viral growth”*. The user base plays a key role in achieving product/market fit. Segmenting users and identifying the cohorts that should be focused on in terms of conversion is crucial because targeting the wrong audience might provide misleading insights. Therefore, it is crucial to examine the cohort that has been surveyed and deduct whether efforts should be focused on different types of users (Happy, 2016). *“The product must be a great fit for users that actually use it. Customers must achieve success with the product otherwise they will churn”*. Additionally, they must get an immense amount of value out of the product in order for them to want to share it. This point was well described by one of the interviewees who noted that *“selling is the act of giving value”*. As an example, a company described as an enterprise viral application grew in 8 years to serve 4 million users and converted 18,000 businesses into paying customers regardless of the fact that they spent close to nothing on promotion. The interviewee from that company mentioned explicitly that their success in virality was due to the product and the user experience it delivered to its end users. The company took an unconventional approach to accounting and expense reports in comparison to their competitors; they focused their product development on the pain points of their potential clients’ employees instead of administrators. This approach positioned the company at a strong stance as *“employees of a potential business client loved the product and resisted the adoption of any competitors’ solutions, which in turn created internal pressure in the potential business client’s*

*organization to adopt the company's product*". Hence, the product, its perceived value, the problem it intends to solve together with user experience can increase the probability of achieving viral growth.

Having a great product that solves users' problems is not necessarily enough to trigger sharing. Increasing the probability of sharing can be done by providing additional value to users once they share. Hence, the value a user gets from sharing affects virality. *"The value does not necessarily have to be monetary"*. In fact, it is recommended that the additional value is related to the core value of the product (Steffen, 2015a). The additional value can be, for instance, more access to the product, unlocking certain features and social benefit i.e. something that increases the users' status among their peers. Companies have also utilised different merchandise and prizes to fuel viral campaigns.

The last factor that relates to the product itself is viral cycle time. A low viral cycle time increases the rate of growth. Viral cycle time is dependent on the product itself. For instance, the simplicity of YouTube ensured its low viral cycle times. The more complicated a product is, the longer the viral cycle time is usually. Companies are able to tackle the issue of long viral cycle times, for instance, by analysing their product from the user's perspective, enhancing the user's experience through product improvements, and implementing onboarding processes that educate the user and decrease their learning curve. Dropbox adopted a philosophy of simplification and education, which doubled their user base year-over-year (Peters, 2014).

### **5.2.2 Viral growth tactics and their design**

The choice of viral growth tactics has a major impact on virality. Products are used in different manners and the applicable tactics depend on the mechanics of the product at hand. Hence, it is crucial to analyse one's product from the perspective of the users and figure out through that process, which viral growth tactics would make sense. For instance, in YouTube's case the sharing possibilities were organically uncovered by discussing with YouTube users and asking them how they would share a YouTube video. The sharing mechanisms that made sense were email and embedding, which were presented immediately after every video at the time. The mechanisms for sharing in YouTube have changed along

the way as other viable options have emerged, such as social media channels. In addition to proper selection of viral growth tactics, it is as crucial to implement multiple tactics. Depending on one tactic to go viral is very improbable. Implementing multiple viral initiatives simultaneously can increase the probability of reaching viral growth (Nemanja, 2012). Once the viral tactics are chosen, it is crucial to design the viral loops to be as simple as possible so that they are *“simple to communicate and adopt by the users”* because *“people will not get into difficult viral schemes”*. For instance, automated notifications generate substantially more messages in comparison to personalized features because they require less effort from the user (Aral & Walker, 2013). However, in certain cases personal invitations might make more sense. If this tactic is chosen the process for inviting and sharing must be made simple and accessible. For instance, Slack provides the possibility to invite people as part of their side menu in the application making the invitation system visible to users regardless of which channel they are in. It is also crucial to actively prompt users to share because *“people do not share by themselves they need to be pushed to do it”*.

A B2B company's viral growth is affected by intercompany virality, which occurs when employees of a certain company invite external companies to use the product. B2B companies need to figure out mechanisms that encourage intercompany viral growth because *“well architected viral growth tactics allow for and encourage external invites and if that is not the case then the potential for infection is small in the mass market because exposure would be limited to few companies”*. For instance, Slack utilises external invitations to grow virally by enabling multiple communication channels for different groups and companies under the same account. Users can have public and private channels. They can invite multi-channel or single-channel guests, which can be contractors, clients or interns.

### **5.2.3 The targeted population**

Two key points related to the targeted population were identified to affect virality. The first point is associated to the size of the population that the product potentially has touchpoints with. The size of the population does not necessarily have to include only potential adopters. Individuals that would share information about the product to their network should be included in the targeted population as well. For instance, the interviewee from a viral

enterprise application company stated that their *“employee focused approach led to a larger mass talking about the company”*, which contributed to their viral success. Additionally, another interviewee stated that *“the more niche the targeted market, the harder it is to achieve viral growth”*. Therefore, it is crucial for a company to identify the size of the market they operate in (thus the size of the population). In addition to the size of the population, virality is affected by the types of population a company targets its efforts on. For instance, influencer marketing is crucial. A company *“needs certain people that are connected to large networks to cause an epidemic”* and should focus their efforts on *“targeting influencers who will amplify their message”*. Targeting influencers was a tactic that came about quite frequently when discussing with interviewees. It is crucial to identify a set of powerful influencers (or opinion leaders) because they play a key role in reaching a larger audience and maximizing product adoption. Influencers can be experts or people with great influence who enjoy communicating with others (Salminen & Hytönen, 2012; Skrob, 2005; Zhou, 2014).

#### **5.2.4 Psychological aspects**

Viral growth is eventually driven by people; therefore, it is obvious that psychological factors affect virality. One of the interviewees stated that *“psychology with behavioural science together form the foundation of how things go viral”* and that *“virality is the coordination of systematic activities that are built upon psychological aspects”*. There are several psychological factors that have an impact on virality and some of the main points that came about from the discussions with the interviewees were:

- Emotional factors
- Disseminated message
- Status
- Social belonging

Two emotional aspects were brought up: coolness factor and ‘wow’ effect. The coolness factor is, for instance, *“unique content that is relatable to a specific audience and provides immense value in a fun and relatable way”* and *“products that have the ‘wow’ factor and are amazing trigger emotional sharing effect”*. One of Uber’s growth engines is said to be

the ‘wow’ experience users have that comes from the frictionless car-for-hire experience (Peters, 2014). The messaging used to communicate with the audience also impacts on virality. Messages that seem like spam or a sales pitch have a downside impact on virality. Instead, the messages “*should be about the users experience and have a great story*”. There are several principles that make a message contagious out of which a few are: messages that evoke emotions in people, messages that have practical value and messages that are wrapped around stories. Shortening links also has a positive impact on the dynamics of the message therefore it is recommended to shorten links. The second last psychological aspect that was brought up is that of status from the user’s perspective. Users “*care more about being recognized than getting discounts*” and “*referral incentives are good to a certain point but something that is more powerful is the fear of not looking good socially, for instance, on Facebook, Twitter and LinkedIn*”. Therefore, it is crucial for a company that is looking to go viral to leverage mechanics that provide visible symbols of status, which increase the user’s social currency (Berger, 2013).

The last psychological aspect is related to how people connect with each other in a certain population. Individuals have a tendency of linking to others in a population. This is described as the herding phenomenon, which is something that contributes to viral phenomenon (Anand & Mathew, 2014; Zhou, 2014). Companies should look for means of “*creating an environment where people feel like they belong to a group*” (i.e. social belonging) in order to increase their probability of achieving viral growth. This can be done, for instance, by creating a community around the product.

### **5.2.5 Business processes**

There are certain business processes that were mentioned to have an impact on virality. One of the business processes is customer support. One of the interviewees mentioned that in B2B cases where the product does not evoke sharing effects based on emotions, putting emphasis on “*building value around the customer care by having a kick-ass customer support experience and handling customers better than competitors*” will work as a driver for achieving viral growth. For instance, Zappos leveraged on satisfaction virality by building an unrivalled customer support (Steffen, 2015a). A company’s sales process can

also have an impact on virality. To be more exact, the friction that exists at different levels of the sales funnel slows down viral growth. For instance, *“a company can get more sales from the virality of emails than the virality of purchases”* because the friction with email campaigns is lower. This point is further clarified by the following process, which was outlined by the interviewee:

- Provide an opportunity for users to sign up
- Then provide them with the possibility to share to their peers and earn prizes
- Build a base of subscribers through this process
- Convert the subscriber base into paying customers

Following the process outlined above lowers the friction of the sales funnel in comparison to a process where one would move an individual directly to the purchasing phase. Hence, by lowering the friction at different levels of the sales funnel a company can build a base of potential users at an exponential rate and utilize that base to generate revenue.

### **5.3 Challenges in achieving viral growth**

Several considerable reasons arose on the challenges that companies face whilst aiming to achieve viral growth. One of the reasons why companies fail to achieve viral growth is because *“the path of viral growth is not replicable”*. Lack of replicability is a crucial issue because it makes viral growth unpredictable. Even implementing successful tactics of competitors does not guarantee any viral growth success. Therefore, there is no general solution, formula or model for achieving viral growth; one *“cannot say that we are going to make this viral”* and *“something that worked the previous month might not work now”*. One of the interviewees provided an explanation to the lack of replicability of viral growth tactics by stating that *“virality is dependent on individual consumers, even in B2B cases”*. Individuals are emotional and irrational, which makes it challenging to define what makes something go viral and what mechanisms trigger viral sharing. One of the interviewees explicitly stated that they put effort into making a viral phenomenon occur every quarter but failed to see it happen. It is *“hard to find something that works”*. Watts et al. (2007) point out that the inconsistency in creating successful viral initiatives is due to the reason that



neither successful attempts nor unsuccessful attempts have specific attributes that can be associated with viral properties. However, Berger (2013) challenges this notion by providing the STEPPS framework, which suggests that there are six key principles that increase the probability of a product being discussed about, shared, and imitated.

The second considerable reason that came about on why companies tend to fail in achieving viral growth is due to the point that *“companies and people think about going viral as if it were a ‘snapping a finger’ process”*. Virality needs to be built and engineered; *“it is not magic, it is not easy”*, companies need to have a clear strategy and put an ongoing process in place. Viral initiatives should be supported by ongoing efforts of analysis, iteration and testing i.e. it is an optimization process *“not a one-time effort that kicks off once it is implemented”*. Prompting users to share will most probably not spark a massive viral sharing. The product or content has to evoke a desire in people to spread it because people spend their social capital along the process. There must be a reason to share it and the means to do so (Holiday, 2013). Additionally, virality is not a result of a single effort. It is a combination of multiple streams i.e. tactics that together amplify the viral reach of product adoption.

The third considerable reason for failing to achieve viral growth is due to the lack of resources and inadequate allocation of resources. Lack of resources or inadequate allocation of resources affects virality due to:

- Limitations posed on developing product features and generating content
- Insufficient communication and distribution efforts
- Limitations on incentivising users

The general consensus on achieving virality is that it reduces the cost of acquiring new customers. Although this is true it does not mean that implementing viral growth tactics requires little-to-no resources. Building features that are intended to drive virality can be resource intensive especially for start-ups with small teams; *“even small features require resources to work well”*. The development of features or generation of content can be done in-house, which would save money from the company. However, it consumes time that might be required for enhancing the product’s user experience by bringing product improvements, feature add-ons, integrations and application programming interfaces (APIs). Lack of resources or inadequate allocation of resources have also a major impact on the

possibility to communicate implemented viral features properly. This in turn affects the distribution of the product by decreasing the potential viral reach. After implementing a viral feature *“most companies believe it will work on itself and therefore do not spend enough budget to communicate the viral feature to the targeted population”*. People need to know about and understand the benefit of sharing for them to actually share. A specific limitation that comes with the lack of resources is the limitation to incentivise sharing. If a company chooses to implement a viral growth tactic that requires incentivising, that company should allocate enough resources for it as well. This works the other way around as well: if a company does not have enough resources to incentivise sharing they should not proceed with such viral growth tactics.

The fourth considerable reason that causes failure to achieve viral growth has to do with the messaging at different touchpoints. Having the right message in place is challenging especially if a company does not have a deep understanding of their audience. This causes the message that is disseminated to the audience to be undesirable. Therefore, it is crucial for a company to know who their audience is and what their preferences are. In most cases *“companies make virality about themselves and try to turn their users into sales representatives”* and *“this approach is detrimental because users are selfish”*. Companies that fail tend to have good ideas on the touchpoints that people have between each other but the message used is incorrect, such as self-promoting sales pitches or spam-like messages. Instead, companies should *“make the message and experience about the user”* because *“virality is about sharing the experience and the product works only as a vessel that allows that experience”*. For instance, Spotify utilized Facebook notifications to communicate automatically the listening habits of its users to their respective social networks. The tone of the message was more about the experience than being a sales pitch: *“... listened to the playlist chill on Spotify”* and the users were fine with the automated broadcasts because it increased their status by making them seem like music aficionados. MapMyRun, an application that tracks a user’s run, gives users a point of pride to share their run and achievements and *“the product itself works merely as a vessel that allows it”*. Kickstarter is also a great example of getting the message right. Instead of the message being about Kickstarter, its tone emphasises on the user and the company they backed up: *“I just backed... @Kickstarter”* (Patel & Taylor, 2013; Steffen, 2015a).

The last considerable reason that arose from the discussions relates to analytics. As mentioned previously, viral growth initiatives should be supported by an ongoing process requiring optimization of the tactics. For a company to optimize implemented tactics and understand how it performs a process for collecting and analysing data should be in place. This is often not the case due to the lack of resources or other reasons. For instance, in case of digital services, relying merely on Google Analytics is not enough because it does not provide deep insights, such as how users behave at different levels of the sales funnel and the product. This *“brings challenges in making rational decisions since decisions are not backed by data”*. Although user actions can be monitored and measured by sophisticated analytical tools, such as MixPanel or Amplitude, the challenge still exists in measuring viral growth. This is due to the multiple forms of communication that can be present in a viral phenomenon together with numerous statistical challenges that prevent clean causal estimation of relationships between interventions and outcomes (Anand & Mathew, 2014; Aral & Walker, 2011a). Thus, evaluating the effectiveness of a single viral feature can turn out to be extremely challenging.

In addition to the reasons that were discussed above, the interviewees mentioned several other points that they considered to cause failure in achieving viral growth. These points are as follows:

- Viral features are often implemented after the product has been built. Although this approach can bring results in most cases it turns out to be an unsuccessful path. Instead, virality should be considered and architected into the product from the beginning. Slack decided to tackle the challenge of having to switch accounts by providing its users the possibility to have private and external chat teams within the same account.
- B2B companies often make the mistake of not allowing spread through external invitations. This can occur for instance in situations where the company’s product is used for internal purposes and there is no means or features implemented that would encourage external co-operation or collaboration.
- Providing monetary incentives for sharing is a common mistake. The reward should be tied to the core value of the product as it was in the case of Dropbox where they provided additional free space instead of money to those that referred the product to their peers.

- In case a company chooses to implement integrations as a viral growth tactic, convincing other parties to integrate is very challenging. Smaller companies do not consider it valuable enough to allocate the required resources and bigger companies have other priorities.
- The more niche the market a company operates in, the harder it is to achieve viral growth.

As is evident, there are several challenges that companies face when aiming to achieve viral growth. The challenges that prevail can be due to the product itself, the resources a company has, the company's operations and processes, the mind-set of the founders and/or management and the nature of how viral phenomenon occur.

## 5.4 Implemented viral growth tactics

The virality and viral growth tactic types that came about in the discussions with the interviewees were:

- Incentivised virality
- Collaboration virality
- Product virality
- Word-of-mouth virality
- Content virality
- Systematic virality

In incentivised virality, users are incentivised to share. Implementing this form of virality requires understanding what type of incentives trigger sharing in users. Often monetary compensation should be avoided, instead other forms of incentives should be provided, such as access to additional functionalities and features that are tied to the core value of the product. Incentivised tactics are effective for user acquisition but a company must be certain about the customer lifetime value and churn rate, otherwise incentivising might turn out to be detrimental to the business. B2B companies that provide a product, which is seen as a utility *“should incentivise sharing and be bullish about it”*. One of the most common viral growth tactic used is the 2-layered incentivised viral marketing in which incentives are two-

sided. For instance, when a user refers the product to a peer they both get some form of an incentive. Applying 2-layered incentives “*decreases the negative feeling that is associated with benefiting from a peer*” that may arise if only one side is incentivised. One of the interviewees mentioned they had applied giveaways as a form of incentive to collect leads. To have the opportunity to win giveaways people must provide their emails and share the giveaway campaign with their peers. Sharing can be “*further incentivised by giving additional entries, which provide the chance to win the main prize*”. This tactic worked extremely well for collecting leads but the conversion rate of those leads was very low. Therefore, the key is not only to make something go viral but to achieve valuable virality. Valuable virality can be achieved by making the brand or product a fundamental part of the incentive (Berger, 2013).

Collaboration virality can have two dimensions:

- The product can be inherently viral so that invitations are mandatory in order to acquire value from the product, such as in the case of Slack. Users must invite their team members to Slack to start communicating and collaborating, otherwise the value one user can get from the application is trivial.
- The product provides value to the user even when used on its own but the viral collaboration engine augments the user’s experience by providing additional value when peers are invited to collaborate, such as in the case of Basecamp and Dropbox. In Basecamp teams can manage tasks as a combined effort. In Dropbox users can exchange documents and work on a document in a centralized location making it more efficient for teams to collaborate.

Viral collaboration engines encourage external invites in B2B cases. If external invites are not encouraged, the “*potential for infection is small in the mass market because every exposure is limited to a few companies*”. One of the most common B2B viral growth tactic used is collaboration viral marketing and “*B2B companies are often viral because of a viral collaboration engine*”. The form of collaboration can vary depending on the product. For instance, collaboration virality in a developer tools company can be utilised by enabling and incentivising collaboration so that “*co-workers could invite internal and external team members to work on a code together*”. The core of collaboration virality is that users get more value by inviting others to achieve a common goal (Steffen, 2015a).

In product virality, features that drive virality are built into the product. This is a very common approach taken by companies that provide software-as-a-service. Companies can build additional features into their product, which the user can get access to only by inviting their peers. Certain features that are a part of the standard product can also work as viral mechanisms. For instance, one of the companies that was interviewed provided a software solution for handling expense reports. Users are able to register to their service for free and gather expense data into the platform. The user can then create expense reports that can be sent via the application to the user's manager. The manager can only approve and reimburse the expenses via the platform. This standard feature functions as a viral mechanism that drives intracompany viral growth. Another example is from a company that offers digital infrastructure analytics tools to their clients. They built a feature into their product that enabled users to take and share snapshots of graphs with their co-workers. This feature also drove intracompany viral growth. One of the interviewees emphasised on the importance of third-party integrations. Integrations can *"drive growth at a way lower cost than traditional marketing"*. For instance, Wishery integrated its service with five other business applications which resulted in over 100 companies signing up to their service on a weekly basis. The conversion rate of those sign-ups was over 20 percent, which is outstanding. One of Wishery's integrations was with MailChimp. This integration brought them a lot of traffic for a few reasons: co-marketing efforts from MailChimp and being displayed on MailChimp's B2B marketplace, which is *"useful especially when a buyer is at the awareness stage because marketplaces are where buyers browse for solutions"* and competition is relatively low since this channel is not currently utilised by the mass.

Word-of-mouth virality has two forms: offline and online word-of-mouth. Companies can encourage word-of-mouth virality in various manners but it can also happen without the knowledge and deliberate actions of a company. Media companies, such as BuzzFeed *"aim to achieve organic sharing by raising emotions through content generation, which make people want to share the content, for instance, to their social media networks"*. Companies operating in other industries can also increase their virality through content generation. It is a *"long-term strategy but an effective one to acquire users"*. Designing content that is intended to go viral should evoke certain emotions in people. For instance, positive feelings beat negative feelings. High-arousal emotions like awe, anger and anxiety favour sharing.

Interesting, informative and surprising content increase the probability of virality (Berger & Milkman, 2013).

One of the interviewees specialized in applied systematic viral growth models. Systematic virality is an approach in which the product is taken out of the equation. Instead, virality is driven systematically based on a sequence of systematic behaviours that are designed to stimulate a repeatable viral effect. There are multiple psychological factors this approach takes advantage of one of which is stimulus queues, which is a form of crowd effect. Queues carry valuable social information and therefore can have an impact on demand. For instance, a marketing campaign that has certain giveaways would benefit from having a user community to create social belonging and a gamified leader board in which users compete and/or progress towards goals for the final prize transparently. Users gain points by carrying out certain pre-determined actions of advocacy. Actions start from low-effort activities, such as commenting or following social pages and gradually increase to higher-effort activities, such as sharing and referring. As a new user joins the giveaway they see their place in the community as a rank, which creates a sense of demand to improve their social status: *“as this many are competing for the final prize maybe I should check it out and join”*. To successfully implement this form of virality it is crucial to have seed users and traffic to build up the viral momentum. Lastly public awareness campaigns can be designed to encourage systematic viral behaviour with social peer pressure. An example is the ALS ice bucket challenge that went viral, as the approach was posting a public video and then challenging others to follow suit. The campaign was able to fully fund a number of research projects by raising over \$100 million in a 30-day period (Woolf, 2016).

Influencer marketing received a number of mentions. Influencers can be utilised to drive organic traffic, which can be then converted to free plans and eventually into paying customers. It is *“a simple marketing strategy that can increase virality”* and an effective way to approach it is by identifying different clusters i.e. who the company’s audience is looking into. Community based virality was also mentioned: if possible a company should allow users to generate and showcase their own content as this will build a community around the company and its product, which can increase virality. Inside email campaigns were mentioned to be effective as well: companies should encourage their subscribers to share emails to their peers by offering them some form of an incentive. Finally, counter-intuitive approaches were said to be more common recently in the B2B space as *“more and*

*more B2B companies are marketing from a B2C perspective*”, for instance, by taking a more laid-back and fun approach instead of being too formal and serious in their marketing messages.

## **5.5 Selecting viral growth tactics for implementation**

There are multiple points that should be considered when selecting viral growth tactics for implementation. The first thing to take into account is the expertise that is existing within the company. That will set certain limitations on what can be implemented especially if the company does not have resources to outsource, for instance, development of features, creation of content and campaigns. Afterwards it is also crucial to define boundaries within what the company wants to stay in, for instance, to exclude referral programs and automated broadcasts if the company does not want to implement such tactics as a growth engine. This decision is affected by multiple factors, such as the company’s culture, ethics and way of working. The choice of tactics also depends on what the company aims to achieve. Is the company aiming for short-term or long-term growth? Is the company aiming to grow their user base, increase retention or grow their year-over-year revenue? Each goal may require a different approach. For instance, if the company is focusing on long-term growth then content generation might be an appropriate path. If the company is aiming to grow their year-over-year revenue, then considering tactics that facilitate upselling might be more lucrative.

One of the most substantial factors that should be taken into account when selecting viral growth tactics is the audience it is targeted at i.e. what type of an audience is it, what are their preferences and what do they value. These are crucial questions that require answers because ultimately *“users’ preferences affect how growth is driven”*. Hence, a company should figure out *“when would users see more value by sharing to others”* and *“how would they do it in an ideal case”*. This will dictate applicable viral growth engines and the experience that the company should architect. For instance, *“YouTube allowed their viral engines to organically reveal itself through beta-use or alpha-use of the product”*.



Other factors that should be considered when selecting viral growth tactics are:

- Customer lifetime value – applicable tactics are limited by the customer lifetime value, for instance, if the customer lifetime value is low then implementing incentivised viral growth tactics might not be an optimal choice.
- Specialties of the market the company intends to operate in should be considered – entering new competitive markets require different tactics compared to markets where the company is dominating in, for instance, in new competitive markets a more aggressive approach towards viral campaigns might be applicable.
- The type of the product affects the choice of tactics – viral campaigns can be run, for instance, for new brands, social causes or existing products. For new products a pre-launching process might be effective. This choice would require traffic building, which can be achieved through paid acquisition channels.

Two of the interviewees stated that they have some form of a systematic approach for selecting tactics to be implemented. They utilised spreadsheets that were stored in the cloud so that every team member at the company could access and modify. The process for one of the companies was to hold a short meeting every week, which everyone from the company could join. The agenda of the meetings are to discuss and prioritise the existing list of tactics and *“to make sure that they are generally going to the right direction”*. Tactics on the list are organized into three categories:

- External connects – things that were promised to be done for someone outside of the company and have a deadline.
- Strategic priorities – substantial things that they want to achieve in the company. These were ideas they believed would generate value for the business.
- Tactical requirements – things that need to be done, such as, maintenance and upkeep of servers.

The other company also generated a list of tactics that are intended to be implemented. The interviewee stated that *“the hardest part is to prioritize the tactics because there are no clear answers”*. However, they aim to prioritize every idea that is inserted into the spreadsheet by ranking them based on the ICE (Impact, Confidence, and Execution) score:

- Impact – the potential impact of the tactic if it works.

- Confidence – strength of evidence for successful implementation, such as, user testing or survey.
- Execution – the level of ease to implement and test the tactic.

A score of one to ten is assigned for each element where ten is the best score, for instance, giving a score of ten to confidence means the team member is extremely confident about the success of that tactic. Once the scoring is completed for all the tactics the low-hanging fruits can be selected for implementation (Haynie, 2016).

## 5.6 Factors that impact the performance of viral growth tactics

The success of a viral growth tactic depends on many factors including those that affect virality as a phenomenon. However, the interviewees explicitly mentioned certain points that determine the success of a viral growth tactic. One of those factors is distribution. A company must communicate its viral tactics to the population otherwise the response will be minimal due to the fact that people might not know of its existence. Another factor is the relevancy of the virality. The core message that is carried through the viral feature or content must be related to the company's core business otherwise it will not generate significant business value for the company. The team behind the execution of a tactic was mentioned to be crucial as well: *“getting team members involved affects the success of a viral growth tactic because eventually you need people behind the execution”*. Budgeting viral growth tactics properly also affects the success rate because *“resources are required for amplification as virality needs a critical mass of seed users, which needs to be forced in the beginning”*. An amount of *“2000-2500 users would be ideal to get the ball rolling”*.

The selected viral growth tactic and its applicability from the perspective of the product affects how the tactic performs. Selecting a proper viral growth tactic is crucial but timing is also a crucial component. For instance, a company must *“be precise and careful about when they ask the user to share and/or refer”*. The user can be requested to share and/or refer immediately after they sign-up but this approach is not recommended. Instead, the company should build a trust relationship with their users by allowing them to get an understanding of the value of the product before asking to share and/or refer.

Companies that aim to achieve viral growth should have an ongoing process in place for it. This, for instance, means incrementally improving implemented viral growth tactics with the goal of increasing its performance. Incremental improvement requires defining the viral funnels of the implemented tactics. A viral funnel has different stages, such as:

- Invite prompt rendered
- Invite form submitted
- Invite sent
- Registration form loaded (by invitee)
- Registration completed (by invitee)

Viral funnels differ from traditional conversion funnels in the sense that actions are taken between two users instead of a single user (Schneider, 2012). Applying a percentage based improvement can drive substantial results, for instance, *“improving the top of the funnel by 3% will have a huge impact on the lower levels of the funnel”*. However, incremental improvements are possible only if the company has proper analytics in place. Therefore, *“the effectiveness of a viral growth tactic comes down to data”* and *“making data-driven decisions”*. There are several data points that a company should measure:

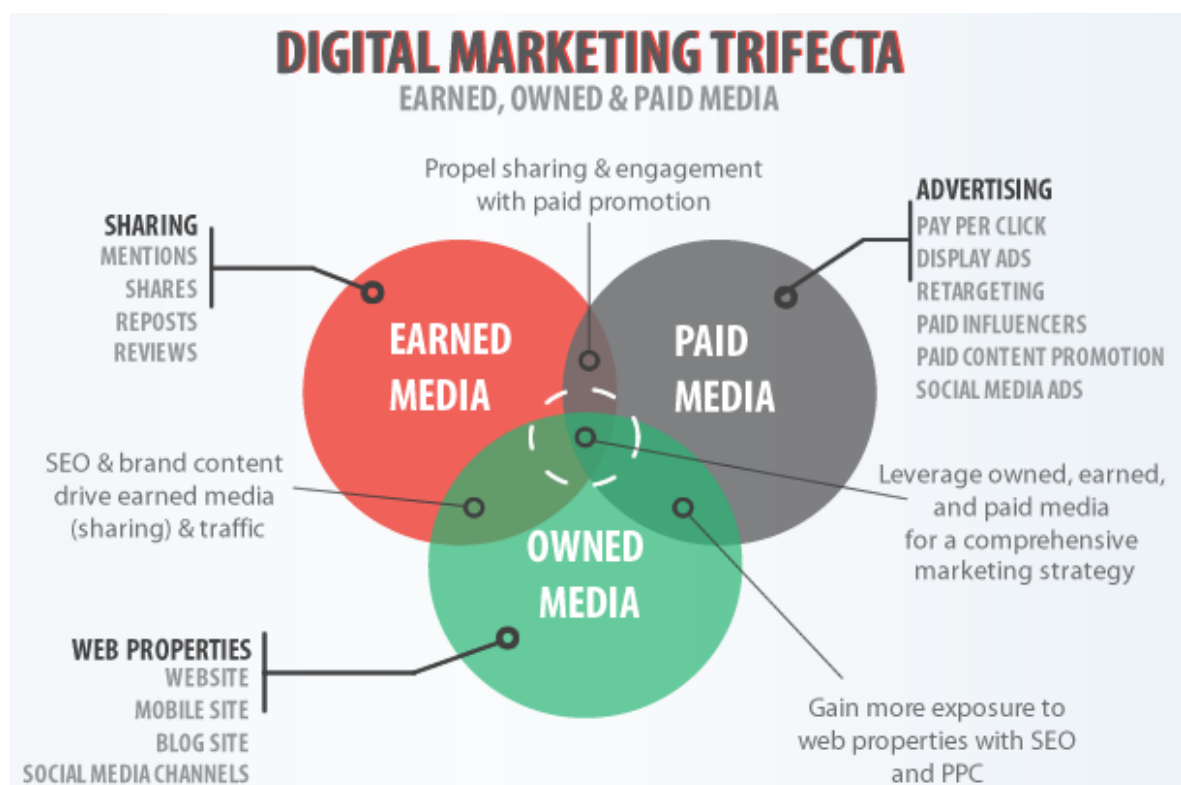
- Viral cycle time is the exponent in the equation – *“it is what drives the velocity of the spread, for instance, YouTube’s viral cycle time was in minutes, which made it extremely viral”*.
- The number of invites sent per user on average within a certain pre-defined time period.
- Conversion rate of invitations – generally speaking the conversion rate of invitations and referrals are higher than conversions that happen via other paths.
- Conversion rate in general i.e. if the potential user does not come via an invitation.
- Activation rate – *“out of the people that sign-up, how many are activated and share or do some form of a ‘viral’ action”*.
- Engagement rate – *“the amount of ‘viral’ actions people execute throughout the population”*. A high engagement rate leads to virality. For instance, *“if you have a high conversion rate but a low engagement rate the viral campaign will not take off”*.

Growth should not be driven only by viral tactics. It is *“crucial for a company to have all media working together for them”*. Hence, the success of viral growth tactics depends on

how well it is supported by other marketing tactics. A concept known as digital marketing trifecta includes three elements of digital marketing strategy:

- Paid media
- Owned media
- Earned media

Paid media includes paid acquisition marketing efforts, such as, paid search, display, social advertising, email buys, promotion of content, paying influencers and use retargeting. Owned media is any web property that a company can control and is unique to the company's brand, such as, website content, social media channels, blogs, emails and mobile alerts. Earned media is organic in nature and includes press coverage, organic rankings on the search engines and viral shares, tweets, word-of-mouth and reposts (Machin, 2013). Utilising the digital marketing trifecta efficiently is crucial for gaining substantial results on viral growth initiatives.



**Figure 17.** Viral growth tactics should be supported by other marketing initiatives as depicted in the digital marketing trifecta

*Source:* What is Earned, Owned and Paid Media? The Difference Explained (Machin, 2013).

In addition to the factors discussed above, there are also other elements that impact the success of viral growth tactics. Conversion rate is one element, which needs to be optimized. Even the most effective viral growth tactics will fall short if conversion rates are low. Retention is another element that needs to be improved. Improving the product so that people come back to it more often increases engagement, which can have a positive impact on several levels, such as, decreasing viral cycle times and increasing the number of shares, referrals and word-of-mouth. On the opposite side of retention lies churn, which in turn is a rate that should be decreased. In fact, there is a consensus on the point that companies should not attempt to grow if their churn rate is too high. Instead, they should discuss with their existing clients and figure out how to decrease churn before implementing growth strategies.

## **5.7 The importance of process for driving viral growth**

Replicating the path to viral growth is not a straightforward process. One can *“intuitively figure out a few viral engines and how the experience should be but this is not a preferred method because you should always make it about the user’s experience”*. Additionally, there is no general formula for achieving viral growth because factors such as the product, business model and audience affect what tactics are applicable. Users interact with a product in different manners and *“there are distinct touchpoints in each product where sharing makes sense”*. Viral growth engines should be built around that notion. Therefore, one should walk through the product with potential users even when it is in a prototype or conception phase. Discussing with potential clients can reveal the situations when their experience would be augmented by sharing and inviting others. The next step would be to request *“how they would want to share the product in the perfect world”* i.e. if there were no limitations. Following this process will dictate the potential viral growth tactics.

An interesting process for driving viral growth came about in the discussions with the interviewees. Few of the interviewees stated that *“viral growth engines should be architected before developing a product idea”*. Typically, a company tries to build viral loops around existing products. However, this approach was not recommended for two reasons:

- Virality needs to be well incorporated and built in the product.

- The product is secondary to the spread of the product and therefore having a great product is not enough. It is as crucial if not even more to have a distribution strategy in place.

Companies fail when their customer lifetime value is lower than their customer acquisition cost especially if they have limited resources. Customer acquisition cost can be high if the company has not formulated a proper distribution strategy for the product. Therefore, a company should first define, select and architect viral engines then focus on solving a real problem that would truly generate value while staying in the boundaries set by the pre-defined viral engines. Building a product around well architected viral loops will enable the company to “*capitalize on the effectiveness of the viral loops*”, which is a more successful path in comparison to forcing viral engines into an existing product. Pre-engineering virality into a product is not a common path as “*most that became giant viral sensations did it by accident, such as Dropbox that had no idea that collaboration virality would become so prolific on their platform*”. They had accidentally architected a viral growth engine by building a collaboration platform. Architecting proper viral engines prior to product development simply requires asking the right questions on a thought level. Two critical components to consider are:

- The amount of resources. For instance, inherent virality should be avoided if the company has limited resources. Building products that require a certain mass of people to generate value for the users are extremely challenging to kick-off. This is due to the reason that inherently viral products requires a substantial financial injection in the beginning to attract a critical mass that would build momentum around the product.
- Expertise of the team. Is the team tech-driven? Does the team have top-notch content creators? Is there a branding expert among the team? Is the team’s business acumen low or high? These questions will answer whether the team should follow viral engines that require more technical know-how, such as viral transaction and embeddable viral marketing or more business know-how, such as viral credibility and viral satisfaction marketing. In case the company has enough resources to hire or outsource the required expertise, this part will not set limitations to what viral engines the company can apply.

For existing products, a process called high tempo testing is recommended for driving growth. This links back to the ongoing and iterative process that is proposed for any company that is aiming to achieve viral growth. The goal of high tempo testing is to find growth in a systematic and measurable manner. GrowthHackers utilised this framework to grow from 90,000 monthly unique visitors to 152,000 monthly unique visitors in a time period of eleven weeks without spending any resources on advertising (Ellis, 2015).



**Figure 18.** Growthhackers.com experienced a substantial increase in their growth as a result of high tempo testing

*Source:* High Tempo Testing Revives GrowthHackers.com Growth (Ellis, 2015).

High tempo testing is about the process of discovering which tactics will be effective for growing the business. This discovery is primarily driven by the experimentation of potential growth initiatives, such as new channels and new sharing and engagement features. The volume of experiments is crucial in this framework: the more experiments executed, the deeper the understanding of how to grow the business in question. High tempo testing has the following stages:

- Ideating without any restrictions
- Prioritization of the ideas that were generated
- Managing the tempo by balancing the workload across different teams
- Analysing the experiments and recording the learnings

High tempo testing is like lean manufacturing, which focuses on the number of items passing through the process together with small initiatives. It has been identified as the most predictable way to hit aggressive growth targets (Ellis, 2015).

Balfour (2014) also emphasises on the importance of having a growth process in place, which generates tactics in a scalable, predictable and repeatable manner. The process consists of two levels: macro- and micro-level. The macro-level steps include finding levers i.e. the one thing that would have the biggest impact on growth if improved at the present day, setting goals and exploring data to validate the assumption. The micro-level steps include brainstorming tactics around the identified lever, prioritizing the tactics systematically, formulating minimum viable tests based on the brainstormed tactics, implementing the tests, analysing the results and systemizing the findings. Tempo is a crucial part of Balfour's growth process as well (Balfour, 2014).

Overall, *“sharing because a company or a product is awesome is very rare”*. Therefore, companies that aim for viral growth should implement a systematic process as they would for other functions, such as sales. Implementations and improvements should be made on a micro-level: deploying, measuring, analysing and enhancing small initiatives that together add up to drive the viral growth of the product. On a general notion a company should consider and implement means that *“make sharing easier, more rewarding, more fun and available at the time they want the users to share”*. For instance, sharing can be made easier by lowering the friction or the effort that is required to share. It can be made more rewarding through valuable and relevant incentives. Sharing can be made more fun through gamification principles and available by integrating the sharing and referring possibility as a part of the product instead of a distinct function. Eventually virality is about *“building a product that sells itself”* by turning every new user into a promoter and to do that one needs to have a proper process in place.

## **5.8 Presenting a framework for engineering viral growth**

The literature review and empirical research disclose the benefit of having a systematic approach to engineering viral growth. A framework for driving viral growth through tactics



that leverage earned media is presented in this chapter. The framework is a combination of several models: a model for analysing a company's virality, high tempo testing process, Berger's STEPPS framework together with the psychological aspects that affect virality, and Fogg's behaviour model together with the elements of simplicity.

The framework for engineering viral growth consists of the following steps: analysing the company in the context of virality, finding levers and setting objectives, systematically generating, implementing and analysing tactics. Tactics are analysed by utilising various models and frameworks (during the ideation phase and after implementation). Each step of the framework includes also sub-steps, for instance generating tactics can be broken down to brainstorming and prioritization phase, and implementing tactics can be broken down to designing and execution phase.

The existing literature lacked a tool for analysing a company on the macro-level in the context of virality. The empirical research of this present research study generated insights on several areas: factors that impact virality, challenges in achieving virality, methods for driving viral growth, and factors that impact the performance of viral growth tactics. The author analysed the findings by breaking the results into separate themes and linking relevant points together in order to identify key elements. Elements that were deducted to have a high impact on the potential viral growth of a company were identified as key elements.

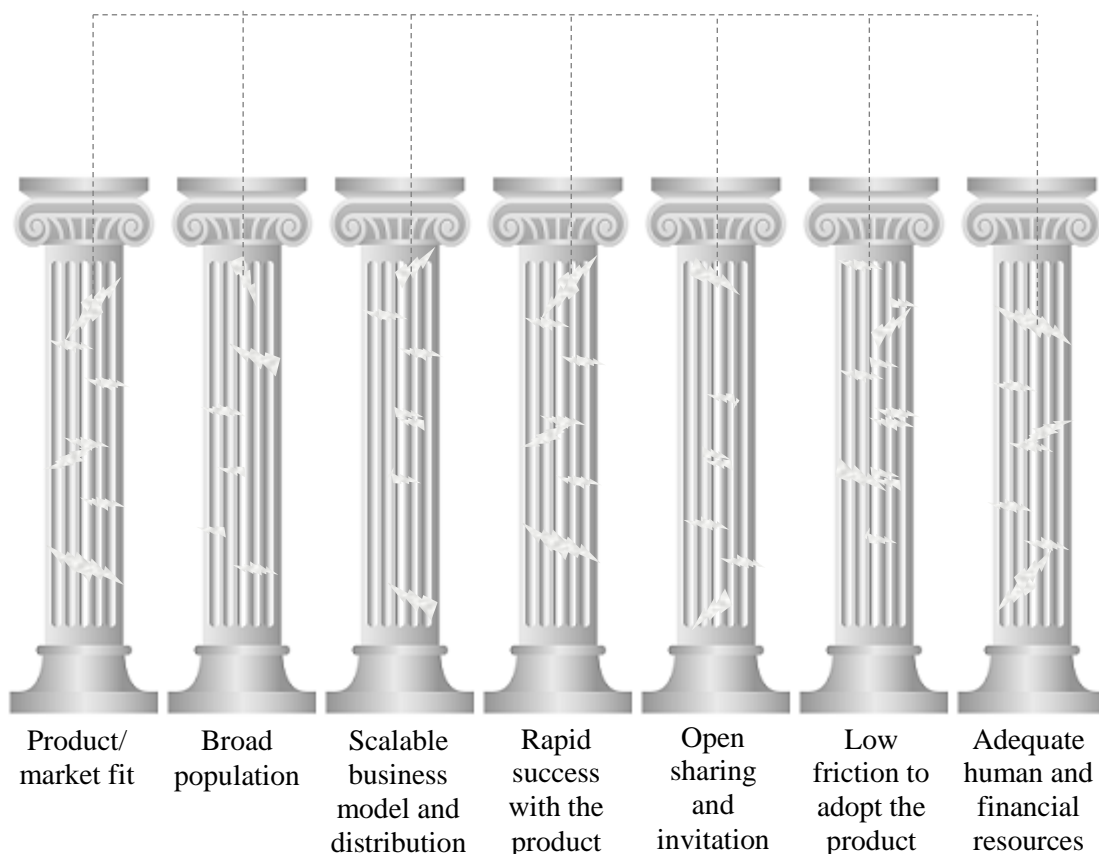
The author of this present research study identified seven key elements, which aid in understanding whether a company has a high or low potential for viral growth. Analysing a company in the light of these elements reveals the strengths a company has, and the aspects that require improvement in order to increase the probability of achieving viral growth. The identified elements form the *Pillars of Virality* as presented in Figure 19.

Each pillar increases the probability of achieving viral growth. Therefore, identifying the pillars that are prevalent in one's company reveals the strengths that pertain: the more pillars one has the higher the probability of achieving viral growth. Furthermore, the pillars can be affected by various factors that weaken them. For instance, the pillar of broad population can be weakened by operating in the business-to-business field and even more so if product adoption occurs on the management level. The pillar of open sharing and invitation can be weakened if the product is utilised in a business-to-business field for internal purposes. The friction for adopting the product is high if a company does not offer free trials or sign ups.

Requiring credit card details from the user during the sign up phase also increases the friction for adoption. The product and its quality together with the perceived value affect product/market fit. The time-frame in which a client achieves success with the product will affect the viral cycle time: if the time-frame is long the viral cycle time will be extended, which in turn lowers the potential for viral growth.

There are also means available for strengthening the pillars. Strengthening all the pillars in order to achieve viral growth is not required. However, the stronger each pillar is the more likely it is for a company to achieve viral growth. Therefore, it is crucial for a company to identify the weakening factors and develop means that could strengthen the affected pillars.

The Pillars of Virality are weakened by several factors, such as, low perceived value of the product, product sold to businesses, growth limited by location, long viral cycle time, external invitations limited by sensitive information, free trial of the product is not available, and limited budget to implement multiple tactics.



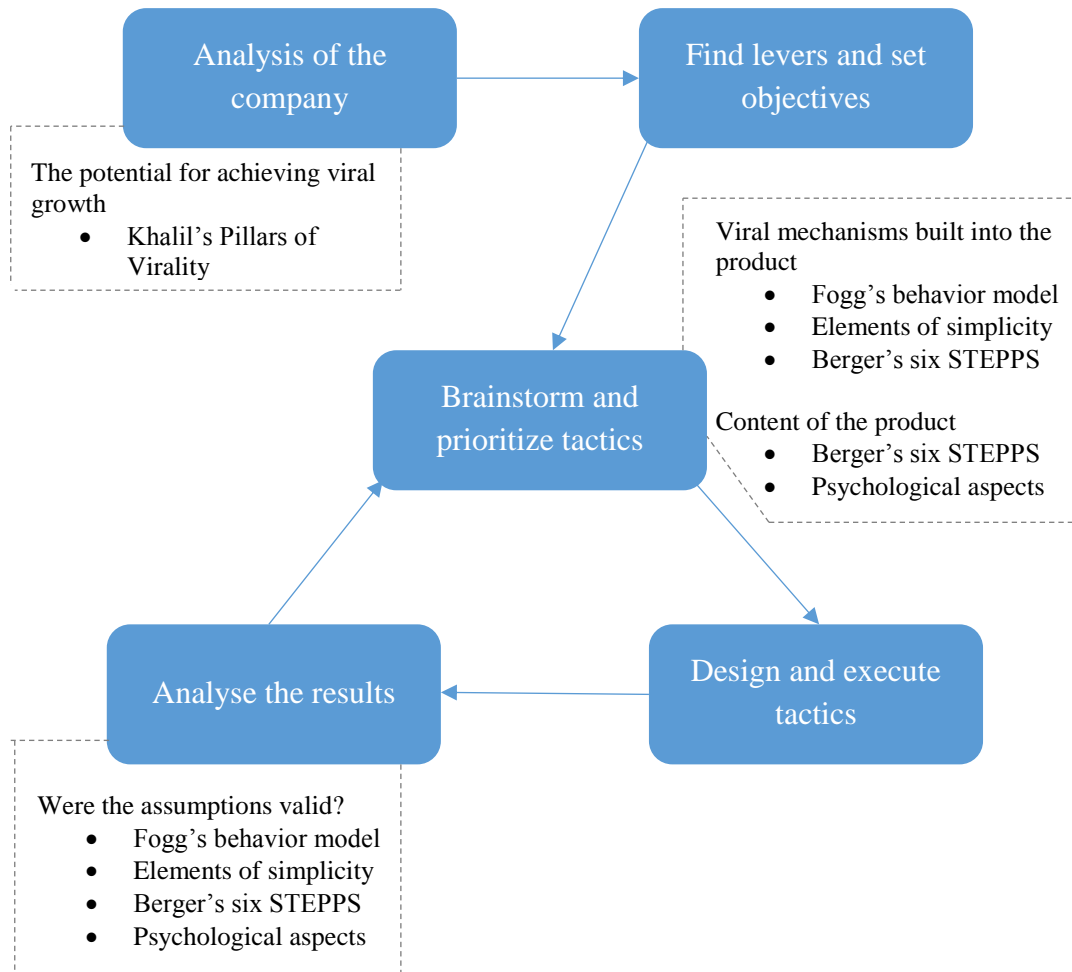
**Figure 19. Khalil's Pillars of Virality can be utilised for analysing a company's potential for achieving viral growth and understanding what aspects require improvement**

Once analysis of the company is done, the identified weakening factors can be inspected for finding levers and setting measurable objectives. Then the next step is to generate tactics

that aid in achieving the objectives that were set. The tactics can be analysed by utilising the following frameworks:

- Berger's STEPPS framework together with psychological aspects
- Fogg's behaviour model together with the elements of simplicity

The aforementioned frameworks aid in understanding whether the tactics that were generated have the elements required for increasing virality. Furthermore, it can be applied for prioritizing tactics that may appear to have the highest impact on virality based on the elements that prevail in the tactic. The same frameworks should be applied once the tactics are implemented for validating the assumptions that were made in the previous step. For instance, a tactic in the ideation phase was deducted to increase the social currency of users and therefore improve virality. Once the tactic is implemented the results should be analysed and the findings reflected on the assumption made: Did it increase the social currency of users? Was it successful in improving virality? Another tactic was deemed to simplify sharing to social media channels by lowering the effort required from users: Did it simplify sharing? Did it increase the number of shares?



**Figure 20. A combination of several frameworks on the macro and micro level provide a comprehensive tool for engineering viral growth**

Analytics is the backbone of the framework for engineering viral growth. One must understand the choices that were made, how those choices performed and most importantly why they performed in the manner that they did. Inadequate data can result in wasted efforts and resources.

## 6 Recommendations for the case company

### 6.1 Analysis of the case company

The case company provides Software-as-a-Service application developed for engaging people in ideation and innovation activities. Ideation and innovation can be internal where the user group is employees or it can be external where the user group is customers. Focus has gone more towards internal ideation and innovation, which is a path that was taken by

the case company's clients. The software is offered as a service to all businesses irrespective of the industry. It includes a free plan, which potential clients can start from and upgrade to a paid version at any given point. They have an on-boarding process built into the product, which helps the users to get a grip on functionalities of the product faster. Finally, around 80% of the case company's key clients would be very disappointed if the case company would not offer their services anymore. So what does this all mean for the case company in terms of virality? The author discusses about virality in this chapter from the case company's perspective i.e. the case company's potential to reach viral growth. The Pillars of Virality is utilised for analysing the case company:

- Product/market fit
- Broad population
- Adequate human and financial resources
- Open sharing and invitation
- Rapid success with the product
- Scalable business model and distribution
- Low friction to adopt the product

First of all, the case company is not limited by location as they offer digital services, which are distributed through online channels. The case company can virtually offer their services across the globe without limitations. Additionally, their product is scalable as there are no limiting factors, such as the requirement of a consultant and resource intensive implementation of the application. Therefore, for the benefit of the case company one of the Pillars of Virality seems strong i.e. the pillar of scalable business model and distribution.

Another potentially beneficial factor for the case company is that their product development and content generation is currently in-house. This allows the company to implement tactics rapidly and with their existing resources. However, since they have two persons on product development and two persons on content generation resources can be allocated for implementing viral growth tactics only to a certain degree without affecting their daily operations. Hence, the pillar of adequate human and financial resources seems to be fragile.

Providing free plans to clients also has a positive impact on virality. This lowers the bar for potential clients to sign up and test the product before making a purchase decision. Friction is further lowered by not requiring payment details during registration. Less friction

increases the potential viral reach, therefore, the case company seems to have a strong pillar of low friction to adopt the product.

The next factor in favour of the case company's virality is their process for on-boarding users. Once the potential clients have registered for a free account they are guided by an on-boarding process. An on-boarding process enhances the user's experience, demonstrates the value of the product at a faster rate, activates and engages the user (Patel & Taylor, 2013). This has a positive impact on virality by shortening the viral cycle time of the product, which in turn increases the rate of viral growth. A viral cycle time is the time period it takes, for instance, for a specific user to sign up for a product and eventually to share it with their peers who would then receive the invitation and potentially adopt the product (Weinberg & Mares, 2014). The on-boarding process strengthens the pillar of rapid success with the product.

The last identified element, which has a positive impact on the case company's virality is product/market fit. Users that do not see value in the product will rarely share it with their peers. Clearly the case company's clients see value in the service since 80% of the key clients would be disappointed if the service did not exist anymore (Happy, 2016). This indicates that the case company's pillar of product/market fit is strong.

There are a few factors at hand that have a downside impact on the case company's potential for achieving viral growth. One of the factors was briefly mentioned already, which was regarding the resources of the company. Limited human and financial resources pose certain challenges. Engineering viral growth is an ongoing process, which requires human capital to test, measure, analyse and iterate a set of implemented tactics. Additionally, viral campaigns are more likely to succeed if proper budget is allocated for seeding users (Watts et al., 2007). Due to the limited resources of the case company it might not be possible to, for instance, implement a high tempo testing process and allocate the necessary budget to build the required initial momentum. This weakens the pillar of adequate human and financial resources.

The case company can offer their services to businesses operating in all industries. This enables them to serve all businesses instead of being limited by a very niche market. However, operating in the business-to-business field still poses limitations on the potential viral reach that can be attained. For instance, their market size is limited in comparison to business-to-consumer products since their market size equals to the amount of businesses

outstanding. This is the case even though on the user level every person is a potential user for the case company. Purchasing decisions are made by a selected few in the business-to-business context in comparison to the business-to-consumer context. This brings us to the next limiting factor, which is that the adoption of the product occurs from middle-level or low-level managers to employees i.e. a manager decides to adopt the product and distributes user licenses across their organization. This not only limits the size of the audience which can be targeted but also increases the viral cycle time. The aforementioned factors have a weakening impact on the pillar of broad population.

The next factor that has a downside impact on virality is due to how the product is utilised by the clients of the case company. Adopting the software for internal innovation and ideation limits the possibility to, for instance, broadcast notifications publicly due to sensitive information. Additionally, the amount of applicable viral growth tactics decreases since certain approaches cannot be utilised, such as the possibility to invite external parties to collaborate without any limitations. This weakens the pillar of open sharing and invitation.

The last identified element, which has a downside impact on virality, relates to the core value of the product. The core value of the product comes from enabling ideation and innovation transparently across the organization. The tangible value derived from ideation and innovation can materialize in different time-frames and at worst it will not materialize at all. Clients often become an advocate once they have achieved success with the product. Therefore, the time-frame in which the benefits of ideation and innovation are materialized can weaken the pillar of rapid success with the product.

In addition to the factors that impact the virality of the case company, it is crucial to identify the viral engines or types of virality that currently prevail. One of the most obvious types of virality that is in play is inherent virality. Having only one user in the application will provide little-to-no benefit for the client. Instead, value is generated through a collaborative process in which users are able to post their ideas, like ideas posted by other users and comment on ideas, which are all actions that affect the status of an idea. Hence, ideas are born and developed via a collaborative process that happens in the application. The more users an organization brings in to collaborate the more value they acquire from it as it increases the pool of knowledge. Inherent virality requires a critical mass in order to build momentum (Steffen, 2015a).

In the situation of the case company inherent virality works in a different manner since the product is utilised for internal ideation and innovation. Intracompany virality i.e. growth within a company can occur rapidly in the case company's situation because once a manager decides to adopt the product they want to reap all the benefits from it. Thus, the manager tends to invite a bunch of colleagues to start utilising the product. The challenging part comes from encouraging intercompany virality through external invites i.e. viral growth from one company to another.

There is also potential for word-of-mouth virality in the case company's occasion. Clients become advocates once they have achieved success with the product. For instance, the level of advocacy can be extremely high in cases where the client has managed to acquire ideas that have been taken under development and proved to be fruitful. Clients that have experienced success with the case company's product at such a level will have the product on top of their mind and generate more word-of-mouth. Additionally, the nature of the word-of-mouth in such cases will be ongoing since the origin of a success story is never forgotten and often repeated (Berger & Milkman, 2013; Berger, 2013).

The case company had mentioned that they would implement an incentivised viral growth tactic: the user will be given additional access if they refer the product to their peers. One of the types of virality that was in play also is transaction virality. Users are able to post their ideas to their social network channels in cases where the client utilises the product publicly to ideate and innovate with their customers. However, this viral engine cannot be considered as a fundamental part of the product since most of the case company's clients utilise the product for internal ideation and innovation.

**Table 8. Analysis of the case company in terms of virality**

Factors having a positive impact on virality
<ul style="list-style-type: none"> <li>• Digital service distributed through online channels</li> <li>• The service is applicable for all business industries</li> <li>• Possibility to implement tactics using in-house human capital</li> <li>• Free plans available for potential clients</li> <li>• On-boarding process</li> <li>• Apparent achievement of product/market fit</li> </ul>



### **Factors having a downside impact on virality**

- Human and financial resources as a bottleneck
- Operating in the business-to-business field
- Product adoption occurring from middle-level or low-level managers
- Clients using the product for internal ideation and innovation
- Time-frame in which the client has achieved success with the product

### **Existing viral engines**

- Inherent virality
- Word-of-mouth virality
- (Incentive virality)
- (Transaction virality)

The author recommends the case company to leverage the factors that have a positive impact on their virality and improve the factors that have a downside impact. There are certain factors that cannot be influenced without completely changing the product and business model, for instance, the factor that they operate in the business-to-business field. Obviously the author does not suggest the case company to change their business line but, for instance, approaching their marketing initiatives counter-intuitively from a business-to-consumer perspective could be an option to consider. Additionally, if it is possible to drive the adoption of the product from bottom-to-top, the audience they could target with their viral initiatives will be larger and thus the potential viral reach also broader.

## **6.2 Process for engineering exponential growth**

The research study indicated that there is no one prescription to drive viral growth in a given company. Instead, it is a combination of efforts that aggregate and amplify the growth rate of the company. Hence, emphasis should be put on the process rather than the tactics. A company that is aiming to achieve viral growth should build and implement a process for

growth that enables them to identify the unique combination of viral actions that drive exponential growth for them. However, the author of this present research study recommends the case company to place emphasis on the end result i.e. exponential growth, instead of the means to achieve the end result i.e. viral actions.

Adopting a more holistic approach increases the probability of achieving exponential growth. Therefore, the combination of actions to drive exponential growth should not be only from the area of virality, instead should include other areas as described in the marketing trifecta. Additionally, it is as crucial to continue the process whilst experiencing exponential growth if the aim is to accelerate the growth rate at a constant ratio. The implemented process should be iterative as well because the foundation of acquisition channels change at a constant rate (Balfour, 2014). As a result, the author of this present research study recommends the case company to implement the process for engineering exponential growth and utilise viral growth frameworks in cases where virality is in question.

The process for engineering exponential growth consists of four key elements:

- Direction
- Tempo
- Learning
- Progress

Defining the direction of the company is a critical component because long-term growth starts with having a sense of direction. Without a sense of direction, a company lacks the focus needed to achieve goals and develop plans that will move the company forward. In this process a framework made popular by Intel and Google called “*Objectives and Key Results (OKR)*” is briefly presented for defining clear objectives before delving into any other step of the growth process.

Having a high tempo process builds momentum which is crucial since achieving exponential growth with a single tactic is rare. Therefore, the more experiments a company is able to implement the higher the probability of achieving exponential growth. Executing experiments rapidly at a high tempo pushes the company through failures towards successes, which can build momentum and amplify the company’s growth to an exponential rate (Balfour, 2014; Ellis, 2015).

It is most probable that the majority of the experiments will deliver unsatisfying results or fail. However, this should not be discouraging because every failure holds valuable information that can be utilised for identifying and building successful tactics. Therefore, it is vital for a company to be on a constant learning mind-set. The more a company knows about their customers, product and acquisition channels the more likely they are to increase their growth rate if the knowledge base is utilised properly (Balfour, 2014; Ellis, 2015).

The number of successful tactics should increase over time as the knowledge base on the customers, product and acquisition channels improve. Therefore, having a constant learning mind-set improves the output of the growth process over time. Reaching this stage might also require consistent macro-level optimization: refining the process, building a stronger team and/or improving the infrastructure (Balfour, 2014).

### **6.2.1 Setting objectives and key results**

The objectives and key results framework aims to incorporate metric-driven results so the company can measure and gauge movement towards or away from success. It aids in understanding where the company is going. The key steps of this stage are to:

- Set a clearly defined objective, which is no longer than a single sentence.
- Defining a proper cadence i.e. setting a time-frame for achieving the objective.
- Set a number of key results with quantitative measurements that provide evidence on how the company has performed in the given time-frame from the point of view of the defined objective.

Objectives should be aspirational, ambitious and actionable. Setting an objective requires taking a step back and identifying one variable that should be achieved that would have the largest impact on the company's growth curve currently given the limited resources i.e. finding levers. Is it acquisition, activation, retention, referral, or monetization? This decision should be based on some form of data not purely on intuition. For instance, if the top goal for growth is increasing the number of weekly average users one would break that down into different components starting from the top level, for instance in the following manner:

- $\text{Weekly average users} = [\text{new activated users}] + [\text{retained users}]$

- New activated users = ( [registered<sup>viral</sup>] \* [activation rate<sup>viral</sup>] ) + ( [registered<sup>FB Ads</sup>] \* [activation rate<sup>FB Ads</sup>] ) + .. + ( [registered<sup>channel#n</sup>] \* [activation rate<sup>channel#n</sup>] )
- Registered<sup>viral</sup> = [impressions to invite page] \* [conversion rate] \* [invites per user] \* [email click-through rate] \* [landing page conversion rate]
- Retained users = ( [new activated users<sup>week#1</sup>] \* [retention<sup>week#1</sup>] ) + ( [new activated users<sup>week#2</sup>] \* [retention<sup>week#2</sup>] ) + .. + ( [new activated users<sup>week#n</sup>] \* [retention<sup>week#n</sup>] )

Data should be gathered on each point in order to define the current state and the potential level that can be reached. This will pin out the one variable that can have the highest impact. For instance, if the data reveals that virality should be focused on the objective could be to *“make virality a meaningful channel”*. Typically, the cadence of objectives and key results is on a quarterly level. However, if the impact of an objective is more long-term it can be transferred from one quarter to another. The rhythmic time frames should match the culture of the business, for instance, the company’s agility (7Geese, 2015; Balfour, 2014; Kaljundi, 2014).

After the objective is set, the next step is to define a set of key results, which should be numerically measured. These should focus on measuring the end result of a combination of tasks. A great key result answers *“how do I know if I have achieved my outcome?”* The key results are set in an increasing order of difficulty. The target is to hit the first key result around 90% of the time, second key result around 50% of the time and third key result around 10% of the time. If the first key result is never achieved it means the goals are set to be too aggressive. On the other hand, if the third key result is achieved on a regular basis it means the goals are not aggressive enough (Balfour, 2014).

The frequency of success is measured against the amount of objective and key results cycles that have been implemented. For instance, if the objective of *“making virality a meaningful channel”* is extended over a longer period of time the key results might be iterated depending on how the previous cycle performed. The key results for the above mentioned objective could be the portion of new users that come through a viral channel over the weekly average users:

- Key result #1: 2%
- Key result #2: 3,5%
- Key results #3: 5%

Focus is put on achieving the key results by moving on to the next steps of the process, which include managing tempo, learning from the outcomes and progressing based on the learnings. Finding levers and setting objective and key results are done on a quarterly basis and the rest of the process is implemented on a daily or weekly basis (Balfour, 2014).

### **6.2.2 The growth experimentation process**

The experimentation phase includes several processes, which can be categorized under tempo, learning and progress. Managing tempo requires having a constant feed of ideas, which are prioritized, designed and eventually taken into implementation. Learning and progressing can also have an influence on tempo. To be able to learn from the tactics that have been implemented a process for analysing the results is required. Progress can be a side-product of learning but can be further enhanced by having a process in place that systematises the key learnings (Balfour, 2014).

Managing tempo can be broken down to four distinct steps:

- Brainstorming potential tactics
- Prioritizing the tactics
- Designing tests based on the tactics
- Implementing the tests

Once the objective and key results are set it is possible to initiate the brainstorming phase. A key point to consider in the brainstorming phase is to break down the objective into smaller pieces. For instance, if the objective is to improve activation then outline the different steps the company's product currently has in terms of activation. A good approach in this case would be to go through the existing on-boarding flow and chart the distinct steps of the on-boarding process. Once all the distinct steps have been identified initiate brainstorming on all the different steps separately i.e. go through each step on its own. Narrowing the scope of brainstorming to single steps produces more specific and actionable ideas. The actual brainstorming can be done by utilising and combining existing frameworks and methods, such as the six thinking hat, star-bursting, observing and looking for insights from what others in the company's competitive and non-competitive space are doing, and exchanging

ideas with external networks. The outcome of brainstorming is a list of ideas that should be documented in a backlog (Balfour, 2014). The backlog can be a simple list, which includes:

- The name of the potential tactic.
- The phase it is in currently i.e. ideation, design, and defined.
- The category it is associated to, such as activation.

Once the backlog is created the next phase is to prioritize the ideas. The key elements to estimate in the prioritization phase are:

- Potential impact of the tactic if it is successful.
- Probability of it being successful.
- Required resources to deploy it.

The potential impact of the tactic should be presented in the form of a hypothesis: *“if the tactic is successful [metric] will increase by [impact] because [assumptions]”*. The prediction of the impact is based on certain assumptions the individual has and these assumptions are critical to outline in the hypothesis. Furthermore, the assumptions should not be merely based on intuition but instead justified by quantitative, qualitative and secondary data. Quantitative data can be, for instance, extracted from previous experiments that are similar in nature. Qualitative data can be surveys, support emails and user testing, which should be utilised to identify potential patterns that justify the assumptions. Secondary data is derived from blogs, observations from competitive and non-competitive space, case studies and external network (Balfour, 2014).

Probability of the tactic being successful should be given a simple estimation of low, medium or high because a more detailed metric, such as grading it from one to ten can turn out to be misleading: how does one determine the difference between a probability of four or five. Tactics with low probability of success are, for instance, totally new in nature and have little or no data to back it up. High probability tactics are, for instance, based off of a previous experiment where one has attained concrete findings and has an idea on how to iterate it (Balfour, 2014).

The resources required to implement the tactic should be given a rough estimation on areas, such as marketing, design and engineering. For instance, does it require one hour, two days or one week? Once this step is done it is possible to identify the low hanging fruits given

that the estimations are not purely based on intuition. The low hanging fruits would naturally be those tactics that have the highest impact, are most probable to succeed and require the least resources. However, these cases might be rare.

To manage tempo, it is recommended to work on tactics that require little resources in comparison to tactics that are resource intensive. The more tactics a company manages to push through the more successful ones they will discover. This will compound over time all the while increasing the growth rate of the company. Therefore, tactics that are highly likely to succeed, require little resources but have a low impact should be preferred over tactics that have a low probability to succeed, require a lot of resources but have a potentially high impact (Balfour, 2014).

Eventually the backlog of the tactics would be as follows:

**Table 9. The backlog aids in structuring and prioritizing the brainstormed tactics which in turn provides a comprehensive list of all viable options**

Name	Phase	Category	Metric	Impact	Probability	Resources [ma, de, en]	Resources [total]
T1	Design	Referral	Conversion	+7%	High	1d, 2d, 1d	4d
T2	Ideation	Referral	Invites	+23%	Low	2d, 6d, 1wk	15d

*Table legend:* ma = marketing, de = design, en = engineering, d = day, and wk = week.

For every tactic an experiment document should be made. The experiment document should include the objective of the tactic i.e. what is intended to be done. Then it should include the hypothesis that was generated in the prioritization phase. After this the assumptions should be stated in a clear and concise manner (Balfour, 2014). An example of this is presented in Figure 21.

Experiment ID 101 - Referral - Invitation Page - Feature vs Social Validation		
<b>Objective:</b> To understand the invitation page messaging and design theme that drives the most conversions to invite.		
<b>Hypothesis:</b> If this experiment is successful, I predict that we will add virally <b>72</b> new registered users per week because of a <b>+7%</b> increase in the conversion rate of the invitation page.		
	<u>Before</u>	<u>After</u>
Views per week	10,000	10,000
Click-through rate to /invite page	21%	21%
Conversion rate to /invite	22%	<b>29%</b>
Amount of invites	2310	<b>3045</b>
Email click-through rate	28%	28%
Landing page conversion rate	35%	35%
Average users per week	226	<b>298</b>

**Figure 21.** The experiment document includes all the crucial elements of a single tactic in one place

This brings us to the next step, which is to design the test based on the tactic that is intended to be deployed. The test should be approached with a similar methodology as in product development's minimum viable product. Defining the minimum viable test to validate the hypothesis without allocating too much resources is critical in order to minimize waste and move rapidly from failures towards successes. For instance, if the plan is to optimize the referral or invitation flow by providing the users some form of an incentive the minimum viable test could be to change the invitation page and the message around it. Therefore, instead of allocating days of engineering resources to implement it fully the test can be deployed in a few hours. Once enough data has been gathered to validate the hypothesis the decision to implement it fully or not can be made with more certainty. Outlining the design of the minimum viable test in the experiment document should be done in a clear and concise manner so that another person can understand it just by reading it. After this step is accomplished the next one in line is implementing the tests (Balfour, 2014).



Once the test is deployed the most important part of the process comes next, which is analysis. In the analysis step three aspects need to be covered:

- Impact: What were the results of the experiment?
- Accuracy: How close was the result to the hypothesis?
- Reason: Why did the test succeed? Why did it fail? Why was the result close or way off of the hypothesis?

Digging into the reasoning behind the results will provide invaluable insights on customers, acquisition channels and the company's product. Data increases the knowledge base, which can be utilised to build more successful tactics. Therefore, it is crucial to extract as many learnings as possible from every experiment that is deployed. Iterations and new ideas that are derived from the learnings should be inserted into the backlog. Additionally, the backlog should be inspected in the light of the learnings: reprioritize the tests and adjust their predictions (Balfour, 2014).

Successful tactics can be eventually productized using technology and engineering. However, if that is not possible then such tactics should be built into step-by-step guides. The reasoning behind this is to make the successful tactics repeatable and retain all of the knowledge that is built through the deployment of tests (Balfour, 2014).

Eventually there are four documents that can aid in the implementation of the process:

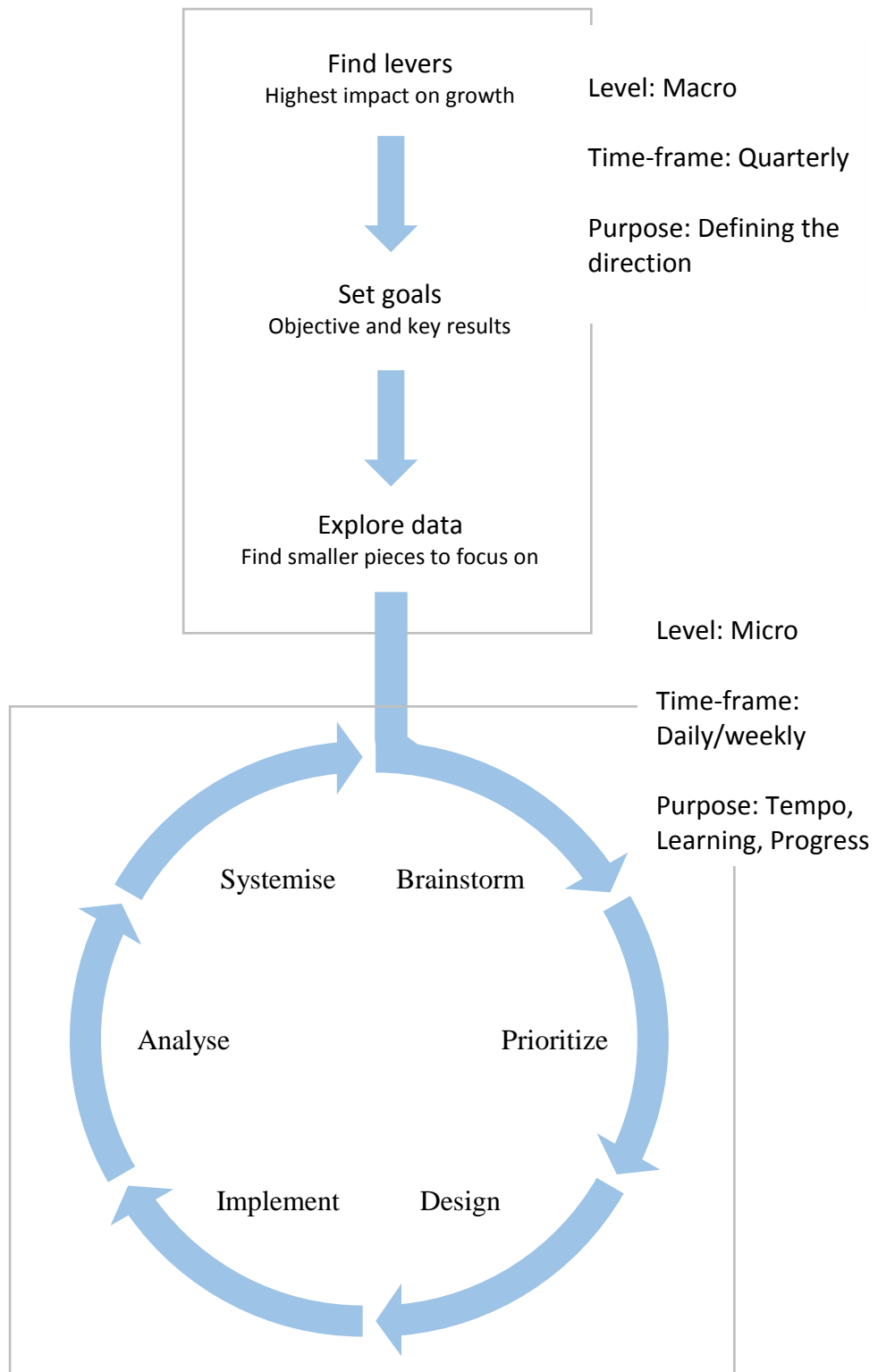
- Backlog: A document for unloading all the possible ideas that are related to growth. It should be available for the whole company so that anyone can access it and contribute.
- Pipeline: Includes a list of all the tests that were deployed, the ones that are currently running and the ones that are in-line to be deployed. This document should also include the highlights of the results for every test.
- Experiment: This document forces the individual to think through the crucial elements, such as why this test is taken into implementation instead of other ones? What is expected from the test? How should the test be designed and implemented? It should also record all the learnings that are important for the entire process.
- Guidebook: A step-by-step guide that can be utilised for repeating successful tactics and educating, for instance, new employees.

Going through a few growth cycles (quarterly cycles) enables the company to step back and analyse the gathered data from a macro level. There are a few items that should be covered:

- Batting average: How many successes over failures? Is it improving over time?
- Accuracy: Is the accuracy of the constructed hypothesis improving over time? This should be the case especially with acquisition channels from which experience has been accumulated.
- Throughput: How many tests have been deployed in a particular time-frame? Is it possible to increase the amount of tests i.e. increase tempo?

This can be utilised to optimize the process, strengthen the growth team and/or improve the infrastructure, such as by implementing better tools or utilising current ones more efficiently (Balfour, 2014).

The process outlined in this chapter and presented in Figure 22 is a growth model, which can be implemented for identifying, outlining and implementing tactics from all the areas of marketing: paid, owned and earned media. The case company should implement it and inspect all of their marketing areas to find levers and work on them step by step to drive exponential growth.



**Figure 22.** The process for engineering exponential growth includes macro-level and micro-level steps

## 6.3 Potential viral growth tactics

The viral growth tactics presented in this chapter are a result of rigorous analysis of the findings of this present research study and the case company in terms of virality. Insights from companies that have implemented viral growth tactics were taken as a source of inspiration. The more viral engines the case company implements the more likely it is for them to acquire an increased number of users through peer-to-peer sharing. Recommendations that are presented may require adjustments or additions to their current product, business model and/or operations.

### 6.3.1 Embeddable virality tactics

#### Embedded feedback tool

The case company's application is possible to utilise as a feedback tool. Companies could embed the case company's application on their websites to gather feedback on areas that are important for them but yet do not fall under sensitive information. This would enable the case company to implement embeddable virality as a viral engine. For instance, Disqus provides a free commenting tool for their clients, which includes Disqus's logo and a call-to-action "*add Disqus to your site*". Every company that embeds Disqus's commenting tool works as a promoter for Disqus. As users become aware of the tool they might consider implementing the tool into their website. This is the essence of what embeddable virality is about: clients get additional value by embedding the tool but in return they also work as a promoter for the company that provides the tool.



**Figure 23. Disqus's commenting application is an example of viral embeddable marketing**

Source: Disqus blog. <https://blog.disqus.com>. Date accessed: 23<sup>rd</sup> October 2016.

For this tactic to work the case company must modify their business model around the feedback tool i.e. it will not work with their current business model in which a client pays per user. The author comprehends that the case company's application's usage has been shifting towards internal utilization. However, the author sees potential in the external use cases in terms of virality and growth in the number of users if certain modifications are done to the product and business model:

- Provide a free feedback tool for companies
  - Free to embed on their website to gather feedback from their audience
  - Feedback visualized as ideas are in the current application
  - Free usage can be limited to one operator and certain functions
- Add the case company's logo together with a call-to-action to a location where it is visible
  - On top or the side of the tool
  - Works as a promoter for the case company
- Monetize free users
  - Charge for additional operators
  - Charge for additional features, such as possibility to moderate and dashboard views with analytics

This tactic strengthens the Pillars of Virality on three domains:

- Broad population
- Open sharing and invitation
- Rapid success with the product

The feedback tool is seen to be applicable especially for smaller companies, which in turn increases the target audience. Since the nature of feedback is instant, the clients would achieve success with the product rapidly. Additionally, following this tactic enables the possibility to implement incentivised virality as well: companies that embed the feedback tool can be encouraged to refer the case company's tool by incentivising them with additional features. The incentive would in this case be relevant to the value the tool provides thus increasing retention and engagement as well. Other mechanisms can also be implemented to encourage open sharing and invitation, for instance, giving the operator the possibility to share positive feedbacks directly to social media channels.

## **Integration with business-to-business applications**

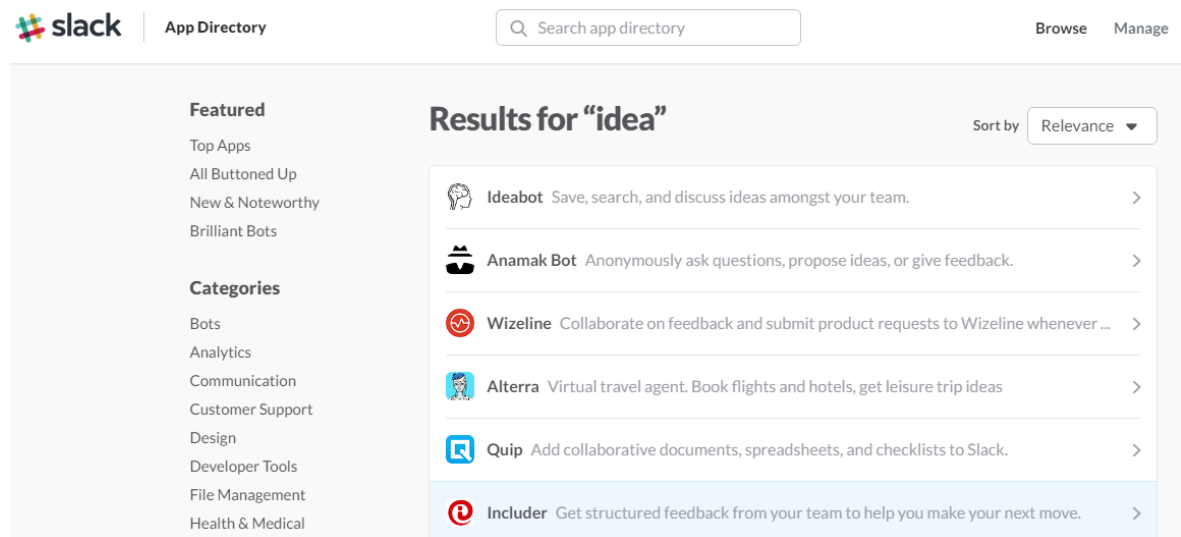
The case company's application is utilised for ideation and innovation with the approach to bring conversation about ideas into the platform. The first step for any company to do in order to utilise the application is to get their employees involved in inserting ideas that they may have. Engagement increases as more ideas are presented for discussion and evaluation. Therefore, a critical point that should be taken into account is the process before the actual idea is conceived in the user's mind. Making the experience seamless by simplifying the process and enabling users to insert ideas into the platform as they come about can lead to a faster rate of adoption. This means the case company's application should be there where the ideas are in the first place generated and/or discussed. The discussion can be then transferred naturally from one touchpoint to another. The author believes this approach to be more fruitful than to change users' habits who are used to discuss with their peers via email, phone, face-to-face and more recently enterprise messengers. For instance, Slack has 2.3 million daily active users (Novet, 2016). In certain companies, enterprise messenger solutions have become the primary tool for communication. The author has evidenced while working in certain companies' how employees bring about and discuss ideas in Slack and Fleep. However, this process is not efficient as the ideas can get lost among other comments and discussions. Bridging this gap might turn out to be a potential viral channel for the case company.

This tactic is not only about improving the users experience but also about leveraging other companies' platforms and their user base to achieve growth. The key to successfully implement this tactic requires the following (Patel, 2014):

- The integrations must make the case company's and the other company's product better thus benefiting both parties.
- Discovering valuable integrations.
- Create a partner page displaying the integrations that exist.

It is crucial to identify the tools and channels that the case company's users utilize in their business. This can be done simply by asking the clients what are the different tools they use. The list of tools should be then evaluated for identifying potential platforms to integrate with. One of the company's that the author of this research study interviewed discussed about the importance of integrations and how it can drive growth with little-to-no cost. Additionally,

integrations enable the integrating company to run, for instance, targeted Facebook advertisements by targeting the users of the company with which the integration has been done. For instance, if integrating the case company's application with Slack is evaluated to be beneficial: the case company can run targeted advertisement to users that like Slack's Facebook page (Patel, 2014). Hence, it is a potential tactic that should not be overlooked although it is one which might require quite a bit of engineering resources.



**Figure 24. Slack has a comprehensive list of applications that have been integrated with it and a search query using the keyword 'idea' displays a few results**

*Source:* Slack app directory. [www.slack.com/apps](http://www.slack.com/apps). Date accessed: 23<sup>rd</sup> October 2016.

This tactic strengthens the Pillars of Virality on three domains:

- Broad population
- Rapid success with the product
- Low friction to adopt the product

The more business-to-business marketplaces the case company is present in, the more awareness is created around their product. Therefore, the number of potential adopters of the product increases. Additionally, integrating with other tools can also improve user experience thus decreasing the time required to achieve success with the product. In the example of integrating with Slack, the case company would also decrease the friction to adopt the product by providing a seamless experience of transferring ideas from a communication channel (Slack) directly to a platform intended for development of ideas (Viima).

### 6.3.2 Communication and signature virality tactic

#### External invitations

One of the largest mistakes companies usually make in terms of virality is that they do not encourage external invites. For business-to-business companies it is crucial to encourage external invitations if they aim to make virality a meaningful channel for growth. This requires finding ways to encourage external sharing and facilitating it by having a process in place that is simple, understandable and generates additional value for the users. Incentivising users to encourage external invites is one way. For the case company other possibilities include communication and collaboration virality.

Every company utilises a set of tools in their daily operations. The tools can be out-of-the-box solutions that do not require nor provide any tailored options or they can be tools that are tailored around the needs of the client. In the latter situation the case company's application can be utilised for identifying and collecting development ideas, bugs and necessary fixes regarding other tools their clients use. This way managers can see major issues in their infrastructure that may have a downside impact on the productivity of their employees. The crucial part of the process in terms of virality comes next: communicating the findings through the case company's application. Users should be able to send reports via the case company's application either in the form of an attachment in an email or shared link, which is accessible by the external party without the requirement of registration. Forcing registration on the external party will increase friction and thus decrease the potential viral reach. However, if registration is not enforced it is crucial to convey to the external party the facilitator of the report together with a call-to-action, which encourages the external party to register.

In case the report is sent as an attachment via email, the message and call-to-action could be placed at the bottom of the report or if possible at the bottom of the email. This way the case company would be able to benefit from communication virality as Hotmail did with their viral tag "*P.S.: I love you. Get your free email at Hotmail.*" (Penenberg, 2009). However, if the case company would follow with a shared link by providing the report as an external view from the clients account it would be necessary to add a "*Powered by Viima Solutions Oy*" tag to the page. This would be signature virality which differs from embeddable virality:



in signature virality the page is hosted by the case company instead of being embedded in the case company's client's website.

“ They add a **visual layer** to questions. Add a drop of creativity and you can build all sorts of different applications.

Hit **Continue**, and we'll show you.

**Continue** press ENTER

1 → Typeforms help you...

a. Get to know people better

What do you do first thing in the morning?

0% completed

Powered by Typeform

**Figure 25.** Typeform's online forms application is an example of viral signature marketing

*Source:* Types of Viral Marketing (Steffen, 2015a).

The presented tactic in this section can be approached from the collaboration virality perspective as well by requiring the external party to register in order to discuss and collaborate. However, this approach can limit the potential viral reach.

This tactic strengthens the Pillars of Virality on two domains:

- Open sharing and invitation
- Rapid success with the product

Implementing the presented tactic will encourage external invitations as there is no sensitive information that is being transferred. Furthermore, the information stays between relevant parties. Additionally, success with the product is achieved at a faster pace: improvement ideas regarding issues and inefficiencies in processes and infrastructure can materialize faster than new product ideas.

### **6.3.3 Incentive virality tactics**

#### **Referral program**

The case company is considering to implement an incentive viral mechanism in which users would gain more access as they refer the product to their peers. As this tactic has not been implemented yet, the author considered it valuable to provide additional insights on the dynamics of incentivised virality.

A fundamental part of any successful referral program is that the perceived cost of inviting is lower than the perceived value for the user. The perceived cost in the case of referring is the fear of losing social credibility i.e. social currency. This should be replaced with the feeling of being “in the know”. Extrinsic incentives cannot offset an inadequate core value that is received from the product unless if the incentive is absurd (Steffen, 2015b). Once the core value received from the product is substantial, users only need a modest nudge in order to become advocates of the product. In this case, extrinsic incentives can be extremely efficient.

Moving on to the referral program: the referral activity of users often ceases once they have acquired the incentive. To get the most out of every user the referral program should be designed so that it is ongoing and the user is prompted to share on a systematic basis. A common interval is to prompt the user to invite peers once in a month. The more frequently one prompts the user to share the more agitated they can get. However, the potential viral reach decreases if the request to invite is prolonged. Therefore, discovering a balance between the two is crucial. This can be done by testing different intervals.

One way for the case company to approach an ongoing referral program is to offer additional access to their clients and require them to invite the next month again in order for them to retain the free access. For instance, the first referral stage would be to require the user to invite five external parties in exchange for additional 50 users for free. The next month they could be required to invite three external parties in order to retain the additional access. After the first two stages the users could be required to invite only one person per month in order to retain the additional access. This approach would ensure an ongoing external invitation process, which would increase the case company’s viral reach. However, the incentive model should be considered carefully and tested on users in order to find the best performing model.

Would it irritate users if the additional access was reset every month? Or does it encourage them to refer actively? If it is the former case then the incentive model could be approached from another angle: the first referral stage would be five invitations for 50 additional users, then the next referral stage would be three invitations for unlocking another additional feature, the third stage could be one invitation in return for a free e-book in the topic of innovation, and so on and so forth. The incentive does not have to be something major, however, it should be something useful for the user and relevant to the core business of the case company.

In addition to designing the referral program to be ongoing, there is a phenomenon the case company should consider when implementing a referral program: the phenomenon of inviter's guilt. The phenomenon occurs when a user sees value in sharing, but feels guilty about exploiting their peers for acquiring that value. Inviter's guilt can prevent users from taking action (Steffen, 2015b). Tackling the inviter's guilt is fairly simple: implement a 2-layered incentive program. In a 2-layered incentive program both sides acquire additional value: the inviter and the invitee. The additional value can be access to more users, features or valuable material, such as e-books.

This tactic strengthens the Pillars of Virality on one domain:

- Open sharing and invitation

Implementing a referral program encourages users to invite external parties because their value is augmented. Considering the fact that the case company's product is used for internal purposes, it is extremely crucial to implement tactics that encourage external invitations.

### **Incentivised campaigns**

Incentivised virality can be approached from a campaign perspective as well. The case company could run viral campaigns that have some form of giveaways and prizes. To implement this approach successfully in terms of virality, the case company must build a community around the campaign, which consists of systematic viral actions that initiate from low-effort actions progressing towards higher-effort actions. Running such campaigns so that the case company would benefit from it requires utilising tools that are developed for distributing giveaways. A few potential tools can be, for instance, Gleam (found at

www.gleam.io) or Queue (found at [www.queueat.com](http://www.queueat.com)). The progression of actions from low-effort to high-effort can be:

- Place a comment or answer a question
- Like Viima's Facebook page
- Follow Viima on LinkedIn or Twitter
- Refer the competition to a friend
- Refer Viima's product to a manager

For each action that is executed a certain amount of points are given to the participant: clearly the high-effort actions are valued higher in terms of points. These campaigns should be approached from a counter-intuitive perspective, by targeting the campaigns at employees instead of managers. In order for the case company to benefit from such campaigns, the author distinguishes the following elements that must be present:

- The question that is required to be answered must relate to the core value the product offers, for instance: "Do you share your ideas within your organization?"
- Collecting the company's details where the employee works in.
- The action in which the employee refers to their manager should not trigger an email or any other notification that would go directly to the manager. Instead, the managers contact details should be stored and the referral sent to the manager at the end of the giveaway.

As employees answer questions related to the core value of the case company's product, a valuable database is generated which can be utilised for other marketing initiatives or to increase the impact of the referral message, which is targeted at the manager.

Collecting referral details and sending the message at the end of the giveaway can minimize spamming. For instance, a flow of 50 invitations will deteriorate the case company's credibility if 50 employees in one company refer the product to the same manager. Additionally, sending the referral at the end of the giveaway can provide a possibility to tailor a more personalized and impactful message, such as: "50 of your employees thought this product would be useful at your organization and 60% of them mentioned that they have product ideas, which they do not know how to take forward in your organization".

This tactic strengthens the Pillars of Virality on two domains:

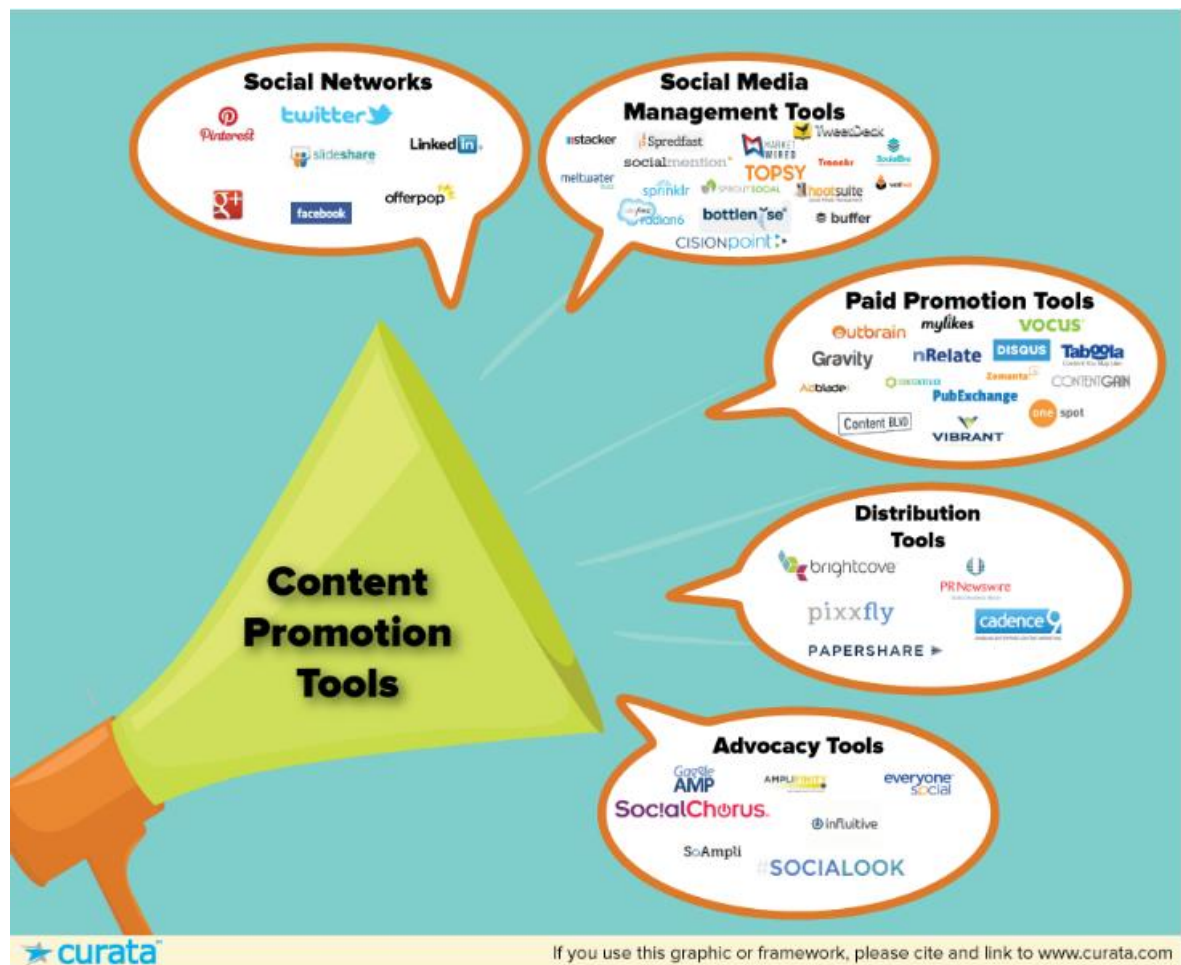
- Broad population
- Open sharing and invitation

Taking a counter-intuitive approach by targeting campaigns at employees instead of managers increases the number of people that would talk about the case company and their product. Additionally, if executed properly it could drive product adoption from bottom-to-top since employees could work as a pressuring force for the manager to adopt the product. Open sharing and invitation is clearly strengthened because every employee that refers the campaign to a friend increases the probability of eventually reaching a different company.

## **6.4 Other recommendations**

The present research study clearly pointed out that viral initiatives should be supported with other forms of marketing as well in order to get the best results. Relying merely on viral initiatives is not a recommended strategy. Therefore, the author suggests the case company to implement a holistic strategy, which takes into account the three areas of Marketing Trifecta: earned, owned and paid media. The author does not go into detail on the topics discussed in this chapter because making detailed recommendations in the domain of, for instance, owned and paid media would require a research of its own.

In the domain of paid media the case company should at least leverage influencer marketing, pay per click, retargeting and paid content promotion. For instance, Outbrain (found at [www.outbrain.com](http://www.outbrain.com)) can be a potential paid promotion tool for the case company. Outbrain is a content discovery tool, which can recommend the case company's content to readers of other premium publishers thus enabling the case company to reach new audiences. There are various other tools that can be utilised for promoting one's content. A comprehensive list of such tools is provided in Figure 26.



**Figure 26. A comprehensive list of content promotion tools**

*Source:* Curata's website. [www.curata.com](http://www.curata.com). Date accessed: 6<sup>th</sup> November 2016.

Influencer marketing is another paid media approach in which individuals and channels that are considered as influencers in the domain of the case company would be paid to promote their product. Influencers have a wider outreach and since they are considered as thought leaders in their respective fields, their impact to drive product adoption can be relatively high. As the case company provides a tool for innovation, the author searched for potential influencers in the domain of innovation. A list of some influencers including individuals and publications is provided in Table 10. The list was acquired from two sources (Gervet, 2015; Skillicorn, 2014). It is not an exclusive list nor are the influencers listed in any particular order. The author recommends the case company to review the original sources and search for other potential influencers.

**Table 10. A list of influencers in the domain of innovation which the case company could co-operate with**

<b>Name or Publication</b>	<b>Twitter @username</b>	<b>Comments</b>
Bill Fischer	@bill_fischer	Co-author on a number of books, such as Reinventing Giants and The Idea Hunter.
Frans Johansson	@Frans_Johansson	Chief Executive Officer of The Medici Group and author of The Medici Effect.
Teresa Amabile	@TeresaAmabile	Author of The Progress Principle and Creativity in Context.
Calestous Juma	@calestous	Author of The New Harvest: Agricultural Innovation in Africa.
Ralph-Christian Ohr	@ralph_ohr	Writes about the integration of personal and corporate innovation.
Ian P. McCarthy	@Toffeemen68	Writes about service innovation.
Jorge Barba	@jorgebarba	Writes about unconventional approaches and ideas to innovation. Consults in the line of innovation.
Steve Denning	@stevedenning	Writes about new and often dislocating management approaches such as lean product development and agile software development.
Drew Boyd	@DrewBoyd	Focuses around the “Inside the Box” methodology for improving creativity in teams and organisations.
Soren Kaplan	@sorenkaplan	A well-established expert in the innovation community. Author of Leapfrogging: Harness the Power of Surprise for Business Breakthroughs.
Gijs Van Wulfen	@gijsvanwulfen	An innovation influencer on LinkedIn. Author of The Innovation Expedition and founder of the Forth Innovation Method.
Jeffrey Baumgartner	@creativeJeffrey	Founder of Anticonventional Thinking, which is an alternative to brainstorming. Questions the established assumptions around innovation.

Mitch Ditkoff	@mitchditkoff	Co-founder and President of Idea Champions, a highly acclaimed management consulting and training company.
Matthew May	@MatthewEMay	A consultant and author of The Elegant Solution: Toyota's Formula for Mastering Innovation.
Stephen Shapiro	@stephenshapiro	An innovation expert and keynote speaker. The author of several books including Best Practices are Stupid: 40 Ways to Out Innovate the Competition.
Paul Sloane	@PaulSloane	A public speaker on lateral thinking and innovation and the author of several books including A Guide to Open Innovation and Crowdsourcing.
InnovationManagement.se	@IM_Innovation	A blog held by multiple authors, which is a popular collection of articles and insights from various innovation experts.
SAP Innovation blog	@Biz_Innovations	A collection of articles from numerous authors with a definite focus on technology innovation and business management.
Board of Innovation	@nickdemey	Blog articles and list of resources in the field of innovation. The website has a list of 52 tools to help any company innovate like a start-up.
Innovation Excellence	@IXchat	The virtual home of the innovation expert community where the majority of experts publish copies of their articles.
Wired	@wired	Consistently features stories about innovation.
Fast Company	@FastCompany	Focuses in innovation that helps readers think beyond their boundaries.

In addition to paid media, the case company should leverage owned media, such as, their blog site and social media channels. LinkedIn and Twitter are relevant social media channels



for approaching managers. Facebook can be utilised if the case company decides to execute counter-intuitive marketing initiatives, such as campaigns targeted at employees.

## **7 Limitations of the research study**

### **The research study**

The most evident limitation of the research study is the generalizability of the results of the empirical part of the study. This is affected by several reasons. The results were based on opinions of individual persons. One cannot verify that the data given by the interviewees is accurate. Additionally, in spite of the fact that, the samples were selected in a systematic manner, the selection process was based on the assumption of whom might have knowledge and experience on the field of virality. The reason behind this is that, companies do not usually have a specific person that is responsible for and solely focused on driving viral growth. Therefore, finding specific individuals that may have extensive knowledge and experience on the topic is limited. Another reason that limits the generalizability of the results of the empirical part is that they are not based on an extensive data set: ten semi-structured interviews. Further research would have to be conducted in order to increase the generalizability of the findings, for instance, by carrying out a quantitative research study on the findings. Due to the aforementioned reasons if someone were to replicate this present research study, the results may differ.

In this present research study, the presented framework for engineering viral growth is not limited by the industry a company operates in. However, one must take into consideration that the model was built with the focus on technological products that can be engineered to drive viral growth.

### **The recommendations**

In the case company it would be very beneficial to have a systematic and ongoing process in place to generate, evaluate, implement and analyse tactics that are intended for driving exponential growth. Therefore, the specific tactical recommendations that were presented in this present research study for the case company should be considered prudently. They

should be implemented in an iterative manner by initiating the process with a minimum viable test. The tactics should be taken to full implementation once data confirms the hypothesis.

A recommended approach would have been to extend the research study by three to six months in order to test the recommendations. The tactics could be improved based on qualitative and quantitative data regarding the case company's audience and distribution channels. In the long-term, continuation of the present research study would have provided empirical evidence on the applicability of the recommendations, thus, giving a possibility to iterate the recommendations if required. Empirical evidence would also increase the generalizability of the model for engineering viral growth. However, due to limited resources this possibility did not exist in the confines of this present research study.

## **8 Academic contributions of the research study**

This present research study resulted in three academic contributions. The first contribution is that the author fills the information gap, which exists in the current literature, by transferring insights from the empirical research that was carried out in this present research study. The second contribution is that the author presents a new model for understanding the potential viral reach of a company by identifying its limiting factors. The last contribution is that the author formulates a systematic process for engineering viral growth by combining several frameworks. The aforementioned model and framework were built to serve the purpose of the objective of this present research study i.e. to make recommendations for the case company. However, the author proposes the model and framework to be applicable on a general level: any company can utilise the tool to increase their virality.

The economic implications of the topic are tremendous as virality can lower the customer acquisition cost, improve profitability and increase the growth potential of companies. This is proven by many cases that have emerged in media. Additionally, being in an era of unlimited amount of data available and a vast array of mediums to choose from, the attention span of people has been vanishing (Conner, 2015). Marketers need to find ways to grab the attention of a user and keep it long enough to get their message across. Virality can be extremely useful for this purpose as one tends to pay more attention to messages received

from an individual within their network. Hence, the framework for engineering viral growth can be a plausible solution for the challenges that marketers face in the digital era.

### **The author's empirical research supplements the existing literature**

The author of this present research study conducted empirical research, which revealed several factors that impact virality and several challenges that prevail in achieving viral growth. The author was able to extract from this data relevant macro-level elements that a company should consider in order to increase their probability of achieving viral growth. These macro-level elements work as the base of the framework presented by the author: The Pillars of Virality.

### **Presenting a macro-level framework: The Pillars of Virality**

The systematic literature review revealed several frameworks in the area of virality. However, the frameworks are applicable on the micro-level: analyse, iterate and improve viral growth tactics. Therefore, the literature was lacking a framework for taking into consideration the macro-level aspects of virality. The Pillars of Virality complements the existing literature by providing a tool for identifying the macro-level factors that increase the probability of achieving viral growth. By utilising the tool, companies are able to identify their strengths for achieving viral growth. The framework also considers factors that decrease the probability of achieving viral growth. Identifying such factors can provide insights on the areas that need improvement in order to increase the probability of achieving viral growth.

### **Presenting a comprehensive tool: A framework for engineering viral growth**

Several frameworks were presented in the existing literature for engineering tactics that can drive viral growth. However, the frameworks are applicable on the tactical level, but they do not provide a comprehensive tool for companies that are looking to implement virality as a growth strategy. The author of this present research study put together a framework for

engineering viral growth, which adds on to the existing literature by linking applicable frameworks together in order to form a comprehensive solution:

- A macro-level tool that enables companies to understand factors that increase their probability of achieving viral growth. Additionally, the tool can be utilised for identifying factors that decrease their probability of achieving viral growth.
- A process for systematically generating, analysing, iterating and improving tactics that are intended to drive growth.
- Micro-level tools utilised for identifying the required elements of virality in the content of the product, and mechanisms that are built into the product.

The framework for engineering viral growth takes into account macro and micro level aspects together with the process. Additionally, it is not limited by the industry a company operates in.

## **9 Conclusions**

Virality is a complex phenomenon, which is affected by multiple factors. Achieving viral growth has been mostly discussed to be a matter of chance due to the low success rate of viral growth tactics. However, this present research study suggests that viral growth can indeed be engineered if it is approached in a systematic manner. As a starting point, one should understand the phenomenon and the factors that impact virality. The research found five major themes that affect virality:

- The product and its attributes.
- Viral growth tactics and their design.
- The targeted population.
- Psychological aspects.
- Business processes.

Understanding the underlying reasons that affect virality provides substance for taking action. However, the next step for a company is to perform a rigorous analysis on the factors that limit their potential for viral growth. This is a crucial step because every company and product is different, thus the factors that impact a specific company's potential for viral

growth may differ. A thorough analysis on the company can provide actionable points. The author of this present research study proposed a model to aid companies understand their position in terms of virality. The model consists of seven pillars of virality:

- Product/market fit.
- Broad population.
- Adequate human and financial resources.
- Open sharing and invitation.
- Rapid success with the product.
- Scalable business model and distribution.
- Low friction to adopt the product.

Once analysis of the company is done, the next step is to generate tactics that drive viral growth. The author formulated a framework for this purpose by combining several models to provide a holistic solution. Initially, the framework for engineering viral growth was formulated for making recommendations for the case company. However, the framework is possible to take into implementation by other companies as well.

Implementing the systematic process for engineering viral growth can increase the probability of achieving viral growth. However, having a systematic process in place does not assure that one can reach a viral coefficient that is above one, which is the mathematical definition for viral growth. Regardless of the fact that achieving viral growth is rare, companies should consider to implement viral growth tactics. Implementing applicable tactics can amplify the number of users acquired from other channels, such as paid channels. Any organic gain decreases the average customer acquisition cost, which in turn increases profitability. Therefore, the author believes that virality should be considered as a growth strategy by every company. It does not necessarily have to be the dominating strategy for growth and it should not be the only strategy for growth. Instead, companies should implement strategies from all the areas of marketing as described in the marketing trifecta.

## **10 Recommendations for further research**

The author considers the topic of this present research study to be worth of more attention in future research due to the potential return on investment that organizations can get from virality in comparison to other growth strategies. Based on the findings of this study as well as the recognized shortcomings of it, two research areas are recommended for future research.

### **Further development of the Pillars of Virality**

As one of the main academic contributions of the study, the Pillars of Virality is considered by the author to be an interesting research area going forward.

The model itself is at an infant stage as it has not been tested outside of this present research study. Additionally, it has been used in practice only for analysing the case company's position in terms of virality. Therefore, further research and practical applications of the model would be needed for identifying the practical guidelines on how to utilise the framework. Furthermore, the model can be supplemented by identifying additional pillars that affect the virality of companies.

One particularly interesting area of further development is to prioritize the Pillars of Virality in the order of their potential impact. For instance, if a company has four weak pillars, which one should they focus on first?

### **Validating the generalizability of the framework for engineering viral growth**

The framework for engineering viral growth has been used in practice only for generating viral growth tactics for the case company of this present research study. In order to validate the generalizability of the framework, further research is required. Research should be conducted on several companies and preferably from disparate industries. Additionally, the outcomes of the tactics should be recorded on the short-term and long-term.

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## **Interviews**

Interview 1. June 20<sup>th</sup>, 2016. Company I, located in France. Position of interviewee: Head of Growth. Semi-structured interview. About: Start-up accelerator focused to nurture entrepreneurs through education. Founded: 2013. Size: 11-50 employees.

Interview 2. June 22<sup>nd</sup>, 2016. Company II, located in USA. Position of interviewee: Founder and Growth Engineer. Semi-structured interview. About: Marketing and advertising with the focus on growth hacking and viral growth. Founded: 2015. Size: 1-10 employees.

Interview 3. June 22<sup>nd</sup>, 2016. Company III, located in France. Position of interviewee: Chairman and CEO. Semi-structured interview. About: Marketing and advertising with the focus on growth hacking and viral growth. Founded: 2014. Size: 11-50 employees.

Interview 4. June 27<sup>th</sup>, 2016. Company IV, located in USA. Position of interviewee: Co-founder and VP of marketing. Semi-structured interview. About: Web analytics and conversion solution built to help growth marketers' measure revenue and customer behaviour. Founded: 2008. Size: 51-200 employees.

Interview 5. June 30<sup>th</sup>, 2016. Company V, located in USA. Position of interviewee: Senior product manager. Semi-structured interview. About: A software analytics company that provides a comprehensive software-as-a-service solution for web and mobile applications. Founded: 2008. Size: 501-1000 employees.

Interview 6. July 13<sup>th</sup>, 2016. Company VI, located in USA. Position of interviewee: Head of Growth. Semi-structured interview. About: A premium online course platform that provides a solution for creating, marketing and selling online courses. Founded: 2013. Size: 11-50 employees.

Interview 7. August 9<sup>th</sup>, 2016. Company VII, located in USA. Position of interviewee: Head of Growth. Semi-structured interview. About: Software-as-a-service that enables companies to create branded short links with a custom domain name. Founded: 2015. Size: 11-50 employees.

Interview 8. August 15<sup>th</sup>, 2016. Company VIII, located in USA. Position of interviewee: Founder and CEO. Semi-structured interview. About: Organic marketing technology

company that offers a viral community advocacy platform for amplifying growth. Founded: 2012. Size: 11-50 employees.

Interview 9. August 17<sup>th</sup>, 2016. Company IX, located in USA. Position of interviewee: Founder and CEO. Semi-structured interview. About: A software company that develops a travel and expense web and mobile application for personal and business use. Founded: 2008. Size: 51-200 employees.

Interview 10. August 31<sup>st</sup>, 2016. Company X, located in USA. Position of interviewee: VP of marketing. Semi-structured interview. About: A software company that offers cloud monitoring as a service solution for IT, operations, and development teams who build and operate applications. Founded: 2010. Size: 201-500 employees.

Interview 11. September 8<sup>th</sup>, 2016. Case Company Viima Solutions Oy, located in Finland. Position of interviewee: Co-founder and CEO. Semi-structured interview. About: A software company that offers idea and innovation management application for companies to harness the tacit knowledge hidden in the organization, capture creative ideas of the employees and have employees collaborate and develop ideas further together. Founded: 2013. Size: 1-10 employees.